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# KOF Working Papers

The Impact of Aid on Growth Revisited: Do Donor Motives Matter?

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The Impact of Aid on Growth Revisited:  
Do Donor Motives Matter?

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**Abstract:** The typical identification strategy in aid effectiveness studies assumes donor motives do not influence the impact of aid on growth. We call this homogeneity assumption into question, first constructing a model in which donor motives matter and then testing the assumption empirically.

**Keywords:** Aid; Growth; Politics  
**JEL codes:** F35, O40

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## 1. Introduction

Research on foreign aid identifies aid allocated both based on recipient need (RN) and donor interests (DI). Following Boone (1995), most aid effectiveness studies capitalize on this by using political instruments to identify the impact of aid on growth (Burnside and Dollar 2000; Rajan and Subramanian 2008).<sup>1</sup> However, interpreting estimation results as the general impact of aid on growth requires the strong homogeneity assumption that donor motives do not influence aid effectiveness. Only a handful of studies consider the impact of *donor* behavior on aid effectiveness in detail (Minoiu and Reddy 2007; Bearce and Tirone 2007; Headey 2008).

In this paper, we call this homogeneity assumption into question by developing an aid allocation model in which recipient government policy choices link donor motives to the impact of aid. We test the assumption by including an estimate of need-based aid in a cross-country time-series growth regression. The test rejects the homogeneity assumption, suggesting a more cautious interpretation of past research results.

## 2. Model

Official development assistance is allocated by a donor and passes through the recipient government. This means the objectives of both the donor and the recipient government – and how they interact – influence aid effectiveness. If the donor is motivated by recipient need, its allocation decision depends on how the recipient uses aid. This induces the recipient to select developmental policies. If the donor is motivated by self-interest, its allocation decision does not depend on how the recipient uses aid and the recipient does not select developmental policies.

Policy may be defined narrowly as the percentage of aid directed to investment or broadly as the overall quality of governance. In either case, aid has more impact on growth when the donor's motive is development.<sup>2</sup>

Aid allocation is a Stackelberg game in which the recipient government first picks policy quality ( $p \in [0,1]$ ) and then the donor picks the level of aid ( $D$ ).<sup>3</sup> The recipient government has an ideal policy ( $p^*$ ) and views more aid as better. The recipient selects actual policy  $p$  to maximize its objective function:

$$U(p, D) = -(p^* - p)^2 + \sqrt{D} \quad (1)$$

The recipient will deviate from  $p^*$  if it receives sufficient extra aid as compensation. However, increasingly large amounts of aid are required for additional deviations from the ideal policy.

The donor selects its level of aid ( $D$ ) to maximize its objective function which reflects both recipient need ( $RN$ ) and donor self-interest ( $DI$ ):

$$V(D, p) = -[\alpha(pD^{RN} - D)^2 + (1 - \alpha)(D^{DI} - D)^2] \quad (2)$$

where  $dD^{RN}/dRN > 0$ ,  $dD^{DI}/dDI > 0$  and  $\alpha \in [0,1]$ . Based solely on donor interests, the donor's ideal level of aid is  $D^{DI}$ . Likewise, the ideal level of aid based on recipient need is  $D^{RN}$  – if the recipient directs all aid to development purposes ( $p=1$ ). To the extent that aid is “wasted” ( $p < 1$ ),

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<sup>1</sup>Jensen and Paldam (2006) and Doucouliagos and Paldam (2009) survey this literature and test for robustness.

<sup>2</sup>We assume the donor can credibly threaten to withhold aid because it can redirect funds to other activities or because of reputation effects in a repeated game (no Samaritan's dilemma).

<sup>3</sup>The donor may or may not announce conditions prior to the recipient picking policy. Assuming full information (the recipient knows donor preferences), the distinction between explicit conditionality (formal conditionality as in Structural Adjustment Programs) and implicit conditionality (e.g., selectivity) is irrelevant here.

the donor's ideal level of need-based aid is correspondingly reduced to  $pD^{RN}$ . Finally, the donor may place more emphasis on need (high  $\alpha$ ) or on geopolitical interests (low  $\alpha$ ). The key feature of this model is that the donor only cares about how aid is used (policy) when the donor's objective is humanitarian. Geopolitically or commercially motivated aid is a bribe; how the recipient uses aid is irrelevant (Morgenthau 1962).

As Stackelberg follower, the donor's reaction function is

$$D(p) = \alpha p D^{RN} + (1 - \alpha) D^{DI} \quad (3)$$

Substituting (3) into (1) gives the reduced form recipient objective function:

$$U(p) = -(p^* - p)^2 + \sqrt{\alpha p D^{RN} + (1 - \alpha) D^{DI}} \quad (4)$$

After finding the FOC by setting the derivative of (4) with respect to  $p$  equal to zero, we can use the implicit function theorem to derive comparative statics for  $p$ :

$$dp / dD^{RN} > 0, dp / dD^{DI} < 0, dp / d\alpha > 0$$

Recipient policy will be better when the recipient is needier, worse when the recipient is more important to the donor, and better when the donor places more weight on need.

The final step in linking donor motives to aid effectiveness is to relate both donor aid and recipient policy to growth. In a neoclassical growth model with technological change,

$$Y = AF(K, L) \quad (5)$$

aid can influence output if it adds to capital stock ( $K$ ) or improves efficiency ( $A$ ). Both of these effects are conditioned on recipient government policy. Better policy indicates a greater share of aid is invested, e.g.,  $\Delta K = pD$ . Likewise, a greater share of technical assistance aid will be used for its intended purpose in a good policy environment. Formally, we can model total factor productivity as  $A = A(p, D)$  where  $dA/dp > 0$ ,  $dA/dD > 0$  and  $d^2A/dDdp > 0$ . It follows that

$dA/dD^{RN} > dA/dD^{DI}$  and  $dK/dD^{RN} > dK/dD^{DI}$ . Taken together, these indicate that need-aid has a greater impact on growth than geopolitically based aid. In the linear growth equation

$$g = \gamma_1 D^{DI} + \gamma_2 D^{RN} + \gamma_3 p + \gamma_4 X \quad (6)$$

where  $X$  represents other variables that influence growth, this means that  $\gamma_2 > \gamma_1$ . Because it may be difficult to measure geopolitical interests consistently across donors and periods, we reformulate the equation (redefining coefficients appropriately) as:

$$g = \gamma_1 D + \gamma_2 D^{RN} + \gamma_3 p + \gamma_4 X \quad (7)$$

Assuming  $D^{DI} \neq 0$ , the greater development effectiveness of  $D^{RN}$  implies  $\gamma_2 > 0$ . Thus, in this model, the development effectiveness of aid depends on donor motives.

### 3. Homogeneity Hypothesis Test

The homogeneity assumption in the literature is equivalent to requiring  $\gamma_2 = 0$  in (7). To estimate (7), we construct a measure of need-based aid ( $D^{RN}$ ) and aggregate across donors. Donors differ in their interests in a specific recipient ( $DI$ ) and in the weight they place on  $RN$  versus  $DI$  across all recipients ( $\alpha$ ). To allow for this heterogeneity, we estimate donor-specific aid allocation equations of the form:

$$D_{ijt} = \beta_{1i} RN_{jt} + \beta_{2i} DI_{ijt} + \beta_{3i} \tilde{p}_{jt} + \beta_{4i} Z_{ijt} + \varepsilon_{ijt} \quad (8)$$

for aid from donor  $i$  to recipient  $j$  in year  $t$ .  $\tilde{p}$  is observed policy quality;  $Z$  are other factors that might influence aid allocation.<sup>4</sup> Our estimate of need-based aid is  $\hat{D}_{ijt}^{RN} = \hat{\beta}_{1i} RN_{jt}$ ; aggregating

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<sup>4</sup>If the policy impact of aid is narrow (e.g.,  $p$  reflects the share of aid invested), then the impact of donor motives on aid effectiveness depends on aid not being completely fungible. If the policy impact of aid is broad (e.g., donor motives for giving aid influence macroeconomic

across donors gives  $\hat{D}_{jt}^{RN} = \sum_i \hat{\beta}_{1i} RN_{ijt}$ . However,  $\hat{D}_{jt}^{RN}$  is simply proportional to  $RN_{jt}$  since  $RN_{jt}$  does not vary across donors. This presents a collinearity problem if  $RN_{jt}$  also enters the growth equation separately (e.g., initial GDP, population). To avoid this, we allow donors to respond differently to need in their former colonies (a reasonable assumption given shared history, colonial guilt, and cultural affinity). The result is a need variable that also varies across donors:

$$D_{ijt} = \beta_{1i} RN_{ijt} + \beta_{2i} DI_{ijt} + \beta_{3i} \tilde{p}_{jt} + \beta_{4i} Z_{ijt} + \varepsilon_{ijt} \quad (9)$$

and an aggregated need aid variable of the form  $\hat{D}_{jt}^{RN} = \sum_i \hat{\beta}_{1i} RN_{ijt}$ . To test the assumption that the impact of aid is homogeneous, we estimate:

$$g_{jt} = \gamma_1 D_{jt} + \gamma_2 \hat{D}_{jt}^{RN} + \gamma_3 \tilde{p}_{jt} + \gamma_4 X_{jt} + \nu_{jt} \quad (10)$$

and test  $H_0: \gamma_2=0$  versus  $H_1: \gamma_2 \neq 0$ .

#### 4. Data and Methods

To construct  $\hat{D}_{jt}^{RN}$ , our measure of need-based aid, we estimate (9) for the thirteen largest bilateral aid donors using annual data on aid flows to 117 countries for the period 1974-2001. The sample excludes observations with zero aid and high income OECD countries that receive aid plus Egypt and Israel. The dependent variable is log gross disbursements. The need variables are log population, log PPP per capita GDP, and their interactions with a dummy indicating if the recipient country is a former colony of that donor. We include additional control variables, as listed in Table 1. For data sources on these and other variables, see the on-

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policy), then including the appropriate policy measure is sufficient to account for heterogeneity. However, the observed measure of policy quality ( $\tilde{p}$ ) may be insufficient.

line data appendix. Table 1 also summarizes the estimated coefficients on recipient need variables (employing OLS), all consistent with a need interpretation. We use these to construct a need-aid variable. For each donor-year, we multiply the ratio of predicted need-aid to predicted total aid by the actual aid amount, then sum across donors.<sup>5</sup>

[Table 1 about here]

The growth regression is a panel analysis using four year period averages. It covers 1974-2001 and 62 developing countries. The reduced country coverage is driven by data availability.<sup>6</sup> The dependent variable is the average four-year growth rate of per capita GDP. Estimation is with OLS; the specification is similar to Burnside and Dollar (2000) but includes country fixed effects. Fixed effects have numerous advantages, e.g., eliminating concerns that non-geopolitical aid is biased toward countries with better (but unobserved) long run growth prospects. In addition to aid to GDP ratios, the growth regression includes log of initial per capita GDP, number of assassinations, ethno-linguistic fractionalization interacted with assassinations, lagged M2 to GDP ratio (financial depth), Burnside-Dollar policy quality, and period dummies.

## 5. Results

Table 2 presents growth regression results. Control variables enter in a similar fashion across all three columns. Initial GDP enters with the expected negative sign; policy quality

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<sup>5</sup>The first step insures that need-aid is never more than actual aid.

<sup>6</sup>The sample expands to 90 countries and 424 observations if we omit the ethno-linguistic fractionalization interaction term. Results are the same as reported below.

enters positively.<sup>7</sup> The estimated coefficients for assassinations, assassinations times ethno-linguistic fractionalization, and financial depth are all insignificant though with the expected sign or very small.

[Table 2 about here]

In Column 1, Aid/GDP reflects the combined effects of need-aid and donor self-interested aid. The estimated coefficient is negatively and marginally significant. Column 2 adds a separate need-aid variable to test the homogeneity hypothesis. Need-aid enters as significant with a positive coefficient indicating that the growth impact of need-aid is significantly different from the impact of aid when the donor has other objectives. Column 3 adds the aid/policy interaction at the core of Burnside and Dollar's analysis. An F-test of the joint significance of the need-aid variables rejects the homogeneity hypothesis at the 90% confidence level.

## 6. Conclusion

Starting with a model of aid allocation, policy choice and growth, we illustrate how donor motives can influence the effectiveness of aid, undermining the homogeneity assumption implicit in the geopolitical instrumentation strategy used in many aid and growth regressions. We also test and reject this assumption empirically. This complicates interpretation of results in much of the aid effectiveness literature and poses a dilemma about how to deal with potential endogeneity.

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<sup>7</sup>This is an implicit dynamic panel specification. Judson and Owen (1999) demonstrate that the bias primarily affects the coefficient estimate on initial GDP rather than our variables of interest.

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Table 1  
Aid Allocation

| Donor       | Population | Former Colony<br>Population | GDP/capita | Former Colony<br>GDP/capita | N    |
|-------------|------------|-----------------------------|------------|-----------------------------|------|
| Canada      | 0.535**    |                             | -0.343**   |                             | 2453 |
| Denmark     | 0.258**    |                             | -0.954**   |                             | 1852 |
| France      | 0.245**    | 0.109**                     | -0.703**   | 0.404**                     | 2523 |
| Germany     | 0.804**    |                             | -0.319**   |                             | 2694 |
| Italy       | 0.395**    |                             | -0.469**   |                             | 2290 |
| Japan       | 0.616**    |                             | -0.508**   |                             | 2669 |
| Netherlands | 0.740**    | 15.061                      | -0.613**   | -7.525                      | 2477 |
| Norway      | 0.482**    |                             | -0.853**   |                             | 2022 |
| Spain       | 0.169**    | 0.0895                      | -0.508**   | -0.825**                    | 1215 |
| Sweden      | 0.174**    |                             | -0.600**   |                             | 1831 |
| Switzerland | 0.852**    |                             | -0.076     |                             | 2339 |
| UK          | 0.734**    | 0.441**                     | -0.573**   | -0.645 **                   | 2471 |
| USA         | 0.407**    | 2.728                       | -0.304**   | -2.893                      | 2399 |

\*\* p<.05

Estimation via OLS. Dependent variable: log gross disbursements. GDP per capita in PPP terms. Estimations include: number of deaths due to natural disasters, post-conflict dummy, Polity, Polity transition, Burnside-Dollar policy quality, UN vote alignment, UNSC "important year" membership dummy, oil reserves, former colony dummy, political alignment dummy, log exports to donor, log imports from donor, and year dummies.

Table 2  
Growth Regressions

|                        | (1)      | (2)       | (3)       |   |
|------------------------|----------|-----------|-----------|---|
| Initial GDP            | -6.996** | -7.422**  | -7.568**  |   |
| Assassinations         | -0.351   | -0.377    | -0.363    |   |
| ×Fractionalization     | 0.001    | 0.002     | 0.002     |   |
| Financial Depth        | 0.033    | 0.037     | 0.036     |   |
| BD Policy Index        | 0.001**  | 0.001**   | 0.001**   |   |
| Aid/GDP                | -10.709* | -48.221** | -54.937** |   |
| ×Policy Index          |          |           | -0.005    |   |
| Need Aid/GDP           |          | 59.534**  | 65.250**  | † |
| ×Policy Index          |          |           | 0.003     | † |
| Number of observations | 362      | 362       | 362       |   |
| Number of countries    | 62       | 62        | 62        |   |

\* p<0.10, \*\* p<0.05; robust standard errors

†Jointly significant at 90% confidence level (p=0.0531).

Includes country fixed effects and period dummies.

## Appendix A: Proof of Comparative Statics Results

I. Derivation of the Donor's reaction function (Stackelberg follower):

$$V(D, p) = -\alpha(pD^{RN} - D)^2 - (1 - \alpha)(D^{DI} - D)^2$$

$$\text{FOC: } \frac{dV}{dD} \Big|_p = 2\alpha(pD^{RN} - D) + 2(1 - \alpha)(D^{DI} - D) = 0$$

$$\alpha(pD^{RN} - D) + (1 - \alpha)(D^{DI} - D) = 0$$

$$D(p) = \alpha p D^{RN} + (1 - \alpha) D^{DI}$$

In the proofs below, we replace  $D^{RN}$  with  $RN$  and  $D^{DI}$  with  $DI$  to simplify the derivations. Since the variables are defined so that  $\frac{dD^{RN}}{dRN} > 0$  and  $\frac{dD^{DI}}{dDI} > 0$ , the signs in the proofs are unaffected.

Finally, to keep the notation compact, we use  $x = RN$  and  $y = DI$  so that the donor reaction function can be written as  $D(p) = \alpha p x + (1 - \alpha) y$ .

II. Proof that recipient government picks higher policy quality when donor places more

weight on need ( $\frac{dp}{d\alpha} > 0$ ):

$$U(p) = -(p^* - p)^2 + (D(p))^{1/2} = -(p^* - p)^2 + (\alpha p x + (1 - \alpha) y)^{1/2}$$

$$\text{FOC: } \frac{dU}{dp} = 2(p^* - p) + \frac{1}{2}\alpha x (\alpha p x + (1 - \alpha) y)^{-1/2} = 0$$

$$\frac{d}{d\alpha}: -2 \frac{dp}{d\alpha} + \frac{1}{2} x (\alpha p x + (1 - \alpha) y)^{-1/2} - \frac{1}{4} \alpha x (p x + \alpha \frac{dp}{d\alpha} x - y) (\alpha p x + (1 - \alpha) y)^{-3/2} = 0$$

$$-8 \frac{dp}{d\alpha} + 2x(\alpha px + (1-\alpha)y)^{-1/2} - \alpha x(px + \alpha \frac{dp}{d\alpha} x - y)(\alpha px + (1-\alpha)y)^{-3/2} = 0$$

$$-[8 + \alpha^2 x^2 (\alpha px + (1-\alpha)y)^{-3/2}] \frac{dp}{d\alpha} = x(\alpha px + (1-\alpha)y)^{-1/2} [-2 + \alpha(px - y)(\alpha px + (1-\alpha)y)^{-1}]$$

$$[8 + \alpha^2 x^2 (\alpha px + (1-\alpha)y)^{-3/2}] \frac{dp}{d\alpha} = x(\alpha px + (1-\alpha)y)^{-1/2} [2 - \alpha(px - y)(\alpha px + (1-\alpha)y)^{-1}]$$

$$\frac{dp}{d\alpha} = \frac{x(\alpha px + (1-\alpha)y)^{-1/2} [2 - \alpha(px - y)(\alpha px + (1-\alpha)y)^{-1}]}{8 + \alpha^2 x^2 (\alpha px + (1-\alpha)y)^{-3/2}}$$

So  $\frac{dp}{d\alpha} > 0$  if  $\alpha(px - y)(\alpha px + (1-\alpha)y)^{-1} < 2 \Rightarrow \alpha px - \alpha y < 2\alpha px + 2(1-\alpha)y \Rightarrow$

$$0 < \alpha px + (2-\alpha)y$$

Since  $\alpha \leq 1$ , all the terms in the sum are non-negative and at least some are positive so the inequality must hold. *Q.E.D.*

III. Proof that recipient government picks higher policy quality when recipient need is greater

$$(\frac{dp}{dRN} > 0):$$

FOC:  $\frac{dU}{dp} = 2(p^* - p) + \frac{1}{2}\alpha x(\alpha px + (1-\alpha)y)^{-1/2} = 0$

$$\frac{d}{dx}: -2 \frac{dp}{dx} + \frac{1}{2}\alpha(\alpha px + (1-\alpha)y)^{-1/2} - \frac{1}{4}\alpha x(\alpha x \frac{dp}{dx} + \alpha p)(\alpha px + (1-\alpha)y)^{-3/2} = 0$$

$$(-2 - \frac{1}{4}\alpha^2 x^2 (\alpha px + (1-\alpha)y)^{-3/2}) \frac{dp}{dx} = -\frac{1}{2}\alpha(\alpha px + (1-\alpha)y)^{-1/2} + \frac{1}{4}\alpha^2 px(\alpha px + (1-\alpha)y)^{-3/2}$$

$$\frac{dp}{dx} = \frac{-\frac{1}{2}\alpha(\alpha px + (1-\alpha)y)^{-1/2} + \frac{1}{4}\alpha^2 px(\alpha px + (1-\alpha)y)^{-3/2}}{-2 - \frac{1}{4}\alpha^2 x^2 (\alpha px + (1-\alpha)y)^{-3/2}}$$

Multiply top and bottom by  $4(\alpha px + (1 - \alpha)y)^{3/2}$

$$\frac{dp}{dx} = \frac{-2\alpha(\alpha px + (1 - \alpha)y) + \alpha^2 px}{-8(\alpha px + (1 - \alpha)y)^{3/2} - \alpha^2 x^2} = \frac{-2\alpha^2 px - 2\alpha(1 - \alpha)y + \alpha^2 px}{-8(\alpha px + (1 - \alpha)y)^{3/2} - \alpha^2 x^2} = \frac{\alpha^2 px + 2\alpha(1 - \alpha)y}{8(\alpha px + (1 - \alpha)y)^{3/2} + \alpha^2 x^2}$$

Since  $\alpha \leq 1$ ,  $\frac{dp}{dx} > 0$  and hence  $\frac{dp}{dRN} > 0$ . *Q.E.D.*

IV. Proof that recipient government picks lower policy quality when the recipient is more

important to the donor ( $\frac{dp}{dDI} < 0$ ):

$$\text{FOC: } \frac{dU}{dp} = 2(p^* - p) + \frac{1}{2}\alpha x(\alpha px + (1 - \alpha)y)^{-1/2} = 0$$

$$\frac{d}{dy}: -2\frac{dp}{dy} - \frac{1}{4}\alpha x(\alpha x\frac{dp}{dy} + (1 - \alpha))(\alpha px + (1 - \alpha)y)^{-3/2} = 0$$

$$(-2 - \frac{1}{4}\alpha^2 x^2(\alpha px + (1 - \alpha)y)^{-3/2})\frac{dp}{dy} = \frac{1}{4}\alpha(1 - \alpha)x(\alpha px + (1 - \alpha)y)^{-3/2}$$

$$\frac{dp}{dy} = \frac{\frac{1}{4}\alpha(1 - \alpha)x(\alpha px + (1 - \alpha)y)^{-3/2}}{-2 - \frac{1}{4}\alpha^2 x^2(\alpha px + (1 - \alpha)y)^{-3/2}}$$

Multiply top and bottom by  $-4(\alpha px + (1 - \alpha)y)^{3/2}$

$$\frac{dp}{dy} = \frac{-\alpha(1 - \alpha)x}{8(\alpha px + (1 - \alpha)y)^{3/2} + \alpha^2 x^2}$$

Since  $\alpha \leq 1$ ,  $\frac{dp}{dy} < 0$  and hence  $\frac{dp}{dDI} < 0$ . *Q.E.D.*

Table A1: Descriptive Statistics for Allocation Regression Samples

|                            |                        |          |           |          |          |
|----------------------------|------------------------|----------|-----------|----------|----------|
| Canada (CAN)<br>2453 obs.  | Variable               | Mean     | Std. Dev. | Min      | Max      |
|                            | log aid                | 1.301082 | 2.086305  | -4.60517 | 6.678455 |
|                            | log population         | 16.02251 | 1.548047  | 12.41091 | 20.97667 |
|                            | log GDP                | 7.858657 | .8497038  | 6.178476 | 10.06949 |
|                            | # killed               | 491.6494 | 7749.357  | 0        | 300000   |
|                            | postwar                | .0729719 | .2601434  | 0        | 1        |
|                            | polity                 | .1108846 | 6.990376  | -10      | 10       |
|                            | polity transition      | .0008153 | .0285481  | 0        | 1        |
|                            | BD policy              | .4476152 | .4973496  | 0        | 1        |
|                            | oil                    | 2.535856 | 14.25086  | 0        | 262.79   |
|                            | war                    | .0807175 | .2724563  | 0        | 1        |
|                            | political alignment    | .2507134 | .4335122  | 0        | 1        |
|                            | UNSC                   | 42.98492 | 161.6141  | 0        | 1221     |
|                            | UN voting alignment    | .6809555 | .075955   | .478022  | 1        |
|                            | lagged log exports     | 2.529024 | 1.855633  | 0        | 7.882639 |
|                            | lagged log imports     | 2.454358 | 2.095016  | 0        | 9.323768 |
|                            | lagged log all exports | 7.294345 | 1.888589  | 0        | 12.5088  |
|                            | lagged log all imports | 7.146961 | 2.002972  | 0        | 13.0876  |
| Denmark (DNK)<br>1852 obs. | Variable               | Mean     | Std. Dev. | Min      | Max      |
|                            | log aid                | .32215   | 2.234508  | -4.60517 | 4.727919 |
|                            | log population         | 16.29453 | 1.520804  | 12.75707 | 20.97667 |
|                            | log GDP                | 7.760305 | .8383322  | 6.178476 | 9.822355 |
|                            | # killed               | 596.7754 | 8838.284  | 0        | 300000   |
|                            | postwar                | .0826134 | .2753713  | 0        | 1        |
|                            | polity                 | .0691145 | 6.935029  | -10      | 10       |
|                            | BD Policy              | .4443844 | .4970315  | 0        | 1        |
|                            | oil                    | 2.07285  | 8.909292  | 0        | 133.25   |
|                            | war                    | .0863931 | .2810195  | 0        | 1        |
|                            | political alignment    | .238121  | .4260486  | 0        | 1        |
|                            | UNSC                   | 49.65173 | 174.1504  | 0        | 1221     |
|                            | UN voting alignment    | .7150559 | .0630702  | .4850746 | 1        |
|                            | lagged log exports     | 2.276804 | 1.475879  | 0        | 6.838583 |
|                            | lagged log imports     | 1.850429 | 1.718253  | 0        | 7.241251 |
|                            | lagged log all exports | 7.315553 | 1.962218  | 0        | 12.5088  |
|                            | lagged log all imports | 7.157854 | 2.090887  | 0        | 13.0876  |

|                            |                        |           |           |          |          |
|----------------------------|------------------------|-----------|-----------|----------|----------|
| France (FRA)<br>2523 obs.  | Variable               | Mean      | Std. Dev. | Min      | Max      |
|                            | log aid                | 2.1319    | 2.006536  | -4.60517 | 7.989377 |
|                            | log population         | 15.9837   | 1.562774  | 12.54516 | 20.97667 |
|                            | log GDP                | 7.939671  | .9093496  | 6.178476 | 10.67489 |
|                            | # killed               | 466.8712  | 7626.934  | 0        | 300000   |
|                            | postwar                | .0725327  | .2594193  | 0        | 1        |
|                            | polity                 | -.1957987 | 7.082086  | -10      | 10       |
|                            | polity transition      | .0007927  | .0281495  | 0        | 1        |
|                            | BD Policy              | .43044    | .4952359  | 0        | 1        |
|                            | former colony          | .2160127  | .4116046  | 0        | 1        |
|                            | oil                    | 5.967847  | 27.16804  | 0        | 262.79   |
|                            | war                    | .078478   | .2689756  | 0        | 1        |
|                            | political alignment    | .2330559  | .4228613  | 0        | 1        |
|                            | UNSC                   | 42.49306  | 160.8641  | 0        | 1221     |
|                            | UN voting alignment    | .6125272  | .0821875  | .423913  | .875     |
|                            | lagged log exports     | 4.4751    | 1.789391  | 0        | 8.214294 |
|                            | lagged log imports     | 4.055673  | 1.998949  | 0        | 9.404278 |
|                            | lagged log all exports | 7.397553  | 1.897197  | 0        | 12.5088  |
|                            | lagged log all imports | 7.24885   | 2.051075  | 0        | 13.0876  |
| Germany (DEU)<br>2694 obs. | Variable               | Mean      | Std. Dev. | Min      | Max      |
|                            | log aid                | 2.676073  | 1.939981  | -4.60517 | 8.617753 |
|                            | log population         | 15.91643  | 1.571445  | 12.30671 | 20.97667 |
|                            | log GDP                | 7.953451  | .9126224  | 6.178476 | 10.70551 |
|                            | # killed               | 451.6451  | 7396.714  | 0        | 300000   |
|                            | postwar                | .0727543  | .2597809  | 0        | 1        |
|                            | polity                 | -.3151448 | 7.126762  | -10      | 10       |
|                            | polity transition      | .0007424  | .0272418  | 0        | 1        |
|                            | BD policy              | .452487   | .4978298  | 0        | 1        |
|                            | oil                    | 5.516594  | 26.20951  | 0        | 262.79   |
|                            | war                    | .0757238  | .2646048  | 0        | 1        |
|                            | political alignment    | .218634   | .4133964  | 0        | 1        |
|                            | UNSC                   | 40.55382  | 155.6421  | 0        | 1221     |
|                            | UN voting alignment    | .6594722  | .0928383  | .4610389 | 1        |
|                            | lagged log exports     | 4.453479  | 2.07305   | 0        | 9.628689 |
|                            | lagged log imports     | 4.290346  | 2.148347  | 0        | 9.903658 |
|                            | lagged log all exports | 7.325551  | 1.909906  | 0        | 12.5088  |
|                            | lagged log all imports | 7.191548  | 2.051148  | 0        | 13.0876  |

|                          |                        |           |           |          |          |
|--------------------------|------------------------|-----------|-----------|----------|----------|
| Italy (ITA)<br>2290 obs. | Variable               | Mean      | Std. Dev. | Min      | Max      |
|                          | log aid                | .5252859  | 2.511064  | -4.60517 | 7.622449 |
|                          | log population         | 16.15076  | 1.51179   | 12.57662 | 20.97667 |
|                          | log GDP                | 7.867534  | .8702322  | 6.178476 | 10.66554 |
|                          | # killed               | 519.9624  | 8010.357  | 0        | 300000   |
|                          | postwar                | .0799127  | .2712172  | 0        | 1        |
|                          | polity                 | -.4768559 | 7.020138  | -10      | 10       |
|                          | polity transition      | .0008734  | .0295463  | 0        | 1        |
|                          | BD policy              | .4458515  | .4971679  | 0        | 1        |
|                          | oil                    | 4.21892   | 22.08949  | 0        | 262.697  |
|                          | war                    | .0873362  | .2823888  | 0        | 1        |
|                          | political alignment    | .1213974  | .3266598  | 0        | 1        |
|                          | UNSC                   | 43.56026  | 162.239   | 0        | 1221     |
|                          | UN voting alignment    | .6727527  | .0786102  | .4925373 | 1        |
|                          | lagged log exports     | 4.01306   | 1.910042  | 0        | 8.38558  |
|                          | lagged log imports     | 3.880841  | 2.118994  | 0        | 8.993204 |
|                          | lagged log all exports | 7.389985  | 1.833021  | 0        | 12.5088  |
|                          | lagged log all imports | 7.22928   | 1.989617  | 0        | 13.0876  |

|                          |                        |           |           |          |          |
|--------------------------|------------------------|-----------|-----------|----------|----------|
| Japan (JPN)<br>2669 obs. | Variable               | Mean      | Std. Dev. | Min      | Max      |
|                          | log aid                | 2.393954  | 2.551704  | -4.60517 | 8.529519 |
|                          | log population         | 15.92585  | 1.578514  | 12.30671 | 20.97667 |
|                          | log GDP                | 7.966073  | .9121624  | 6.178476 | 10.70551 |
|                          | # killed               | 456.7359  | 7431.178  | 0        | 300000   |
|                          | postwar                | .0734357  | .2608993  | 0        | 1        |
|                          | polity                 | -.3274635 | 7.126502  | -10      | 10       |
|                          | polity transition      | .0007493  | .027369   | 0        | 1        |
|                          | BD policy              | .454852   | .4980508  | 0        | 1        |
|                          | oil                    | 5.653871  | 26.4538   | 0        | 262.79   |
|                          | war                    | .0730611  | .2602855  | 0        | 1        |
|                          | political alignment    | .202323   | .401807   | 0        | 1        |
|                          | UNSC                   | 41.39116  | 157.9779  | 0        | 1221     |
|                          | UN voting alignment    | .7165586  | .0721542  | .4873418 | 1        |
|                          | lagged log exports     | 4.291162  | 2.196871  | 0        | 10.5956  |
|                          | lagged log imports     | 3.785449  | 2.511866  | 0        | 11.03154 |
|                          | lagged log all exports | 7.364601  | 1.885861  | 0        | 12.5088  |
|                          | lagged log all imports | 7.235218  | 2.02208   | 0        | 13.0876  |

|                                |                        |           |           |          |          |
|--------------------------------|------------------------|-----------|-----------|----------|----------|
| Netherlands (NLD)<br>2477 obs. | Variable               | Mean      | Std. Dev. | Min      | Max      |
|                                | log aid                | 1.052159  | 2.063855  | -4.60517 | 5.462263 |
|                                | log population         | 16.00522  | 1.539068  | 12.30671 | 20.97667 |
|                                | log GDP                | 7.85057   | .8446514  | 6.178476 | 10.66794 |
|                                | # killed               | 486.3133  | 7711.796  | 0        | 300000   |
|                                | postwar                | .0767057  | .2661776  | 0        | 1        |
|                                | polity                 | -.0617683 | 7.034864  | -10      | 10       |
|                                | polity transition      | .0008074  | .0284095  | 0        | 1        |
|                                | BD Policy              | .4557933  | .4981425  | 0        | 1        |
|                                | oil                    | 2.837206  | 15.27937  | 0        | 262.79   |
|                                | war                    | .0799354  | .2712479  | 0        | 1        |
|                                | former colony          | .0117077  | .1075886  | 0        | 1        |
|                                | political alignment    | .2309245  | .4215093  | 0        | 1        |
|                                | UNSC                   | 41.22164  | 158.7624  | 0        | 1221     |
|                                | UN voting alignment    | .6741653  | .0762057  | .4925373 | 1        |
|                                | lagged log exports     | 3.327133  | 1.636923  | 0        | 7.890792 |
|                                | lagged log imports     | 3.165934  | 2.107587  | 0        | 9.312725 |
|                                | lagged log all exports | 7.241348  | 1.89993   | 0        | 12.5088  |
|                                | lagged log all imports | 7.092501  | 2.025192  | 0        | 13.0876  |

|                           |                        |          |           |          |          |
|---------------------------|------------------------|----------|-----------|----------|----------|
| Norway (NOR)<br>2022 obs. | Variable               | Mean     | Std. Dev. | Min      | Max      |
|                           | log aid                | .0876741 | 2.083411  | -4.60517 | 5.732888 |
|                           | log population         | 16.25663 | 1.498137  | 12.79603 | 20.97667 |
|                           | log GDP                | 7.788535 | .8359857  | 6.178476 | 10.25135 |
|                           | # killed               | 580.9322 | 8513.503  | 0        | 300000   |
|                           | postwar                | .086548  | .2812411  | 0        | 1        |
|                           | polity                 | .5351137 | 6.873747  | -10      | 10       |
|                           | polity transition      | .0009891 | .0314425  | 0        | 1        |
|                           | BD policy              | .4431256 | .4968777  | 0        | 1        |
|                           | oil                    | 2.981306 | 15.17086  | 0        | 262.79   |
|                           | war                    | .0905045 | .2869741  | 0        | 1        |
|                           | political alignment    | .2532146 | .4349604  | 0        | 1        |
|                           | UNSC                   | 47.4095  | 171.1679  | 0        | 1221     |
|                           | UN voting alignment    | .7134267 | .0672905  | .4850746 | 1        |
|                           | lagged log exports     | 1.626101 | 1.409292  | 0        | 6.836946 |
|                           | lagged log imports     | 1.467134 | 1.63266   | 0        | 7.145362 |
|                           | lagged log all exports | 7.350409 | 1.899115  | 0        | 12.5088  |
|                           | lagged log all imports | 7.200393 | 2.038746  | 0        | 13.0876  |

|                          |                        |          |           |          |          |
|--------------------------|------------------------|----------|-----------|----------|----------|
| Spain (ESP)<br>1215 obs. | Variable               | Mean     | Std. Dev. | Min      | Max      |
|                          | log aid                | .0206641 | 2.513487  | -4.60517 | 6.298159 |
|                          | log population         | 16.35992 | 1.470293  | 12.72165 | 20.97667 |
|                          | log GDP                | 7.949864 | .8855973  | 6.178476 | 9.991495 |
|                          | # killed               | 351.7926 | 4321.416  | 0        | 139939   |
|                          | postwar                | .090535  | .2870648  | 0        | 1        |
|                          | polity                 | 2.023045 | 6.402311  | -10      | 10       |
|                          | polity transition      | .0016461 | .0405553  | 0        | 1        |
|                          | BD Policy              | .3893004 | .4877924  | 0        | 1        |
|                          | oil                    | 3.603482 | 15.25888  | 0        | 260.05   |
|                          | war                    | .0806584 | .272422   | 0        | 1        |
|                          | former colony          | .1053498 | .30713    | 0        | 1        |
|                          | political alignment    | .2707819 | .4445466  | 0        | 1        |
|                          | UNSC                   | 57.02222 | 197.3644  | 0        | 1221     |
|                          | UN voting alignment    | .7311244 | .0751449  | .4925373 | .9180328 |
|                          | lagged log exports     | 3.542905 | 1.806017  | 0        | 7.689646 |
|                          | lagged log imports     | 3.752781 | 1.969969  | 0        | 8.410741 |
|                          | lagged log all exports | 7.853031 | 1.834393  | 0        | 12.5088  |
|                          | lagged log all imports | 7.654443 | 2.012284  | 0        | 13.0876  |

|                           |                        |          |           |          |          |
|---------------------------|------------------------|----------|-----------|----------|----------|
| Sweden (SWE)<br>1831 obs. | Variable               | Mean     | Std. Dev. | Min      | Max      |
|                           | log aid                | .6199201 | 2.103035  | -4.60517 | 5.423848 |
|                           | log population         | 16.29789 | 1.515847  | 13.0857  | 20.97667 |
|                           | log GDP                | 7.862197 | .8475577  | 6.178476 | 10.51645 |
|                           | # killed               | 616.284  | 8927.352  | 0        | 300000   |
|                           | postwar                | .0895685 | .2856406  | 0        | 1        |
|                           | polity                 | 1.170945 | 6.796716  | -10      | 10       |
|                           | polity transition      | .0010923 | .0330409  | 0        | 1        |
|                           | BD policy              | .4691425 | .4991832  | 0        | 1        |
|                           | oil                    | 3.313266 | 13.62592  | 0        | 168.848  |
|                           | war                    | .0944839 | .2925806  | 0        | 1        |
|                           | political alignment    | .2878209 | .4528709  | 0        | 1        |
|                           | UNSC                   | 49.3905  | 177.6024  | 0        | 1221     |
|                           | UN voting alignment    | .7485343 | .0649892  | .4925373 | 1        |
|                           | lagged log exports     | 2.791438 | 1.85543   | 0        | 7.563263 |
|                           | lagged log imports     | 2.069448 | 1.898665  | 0        | 7.467085 |
|                           | lagged log all exports | 7.51789  | 1.954487  | 0        | 12.5088  |
|                           | lagged log all imports | 7.355812 | 2.081532  | 0        | 13.0876  |

|                                   |                        |           |           |          |          |
|-----------------------------------|------------------------|-----------|-----------|----------|----------|
| Switzerland (CHE)<br>2339 obs.    | Variable               | Mean      | Std. Dev. | Min      | Max      |
|                                   | log aid                | -.0615079 | 2.032892  | -4.60517 | 3.908617 |
|                                   | log population         | 16.18486  | 1.483478  | 12.54516 | 20.97667 |
|                                   | log GDP                | 7.806329  | .8310452  | 6.178476 | 10.06631 |
|                                   | # killed               | 523.4566  | 7941.931  | 0        | 300000   |
|                                   | postwar                | .084224   | .2777829  | 0        | 1        |
|                                   | polity                 | -.0119709 | 6.952105  | -10      | 10       |
|                                   | polity transition      | .0008551  | .0292353  | 0        | 1        |
|                                   | BD policy              | .4476272  | .4973559  | 0        | 1        |
|                                   | oil                    | 2.849272  | 12.09847  | 0        | 133.25   |
|                                   | war                    | .0876443  | .2828374  | 0        | 1        |
|                                   | political alignment    | .0085507  | .0920933  | 0        | 1        |
|                                   | UNSC                   | 43.02309  | 162.3324  | 0        | 1221     |
|                                   | lagged log exports     | 2.738114  | 1.774675  | 0        | 7.180854 |
|                                   | lagged log imports     | 2.08266   | 1.690047  | 0        | 7.946908 |
|                                   | lagged log all exports | 7.335273  | 1.859602  | 0        | 12.5088  |
|                                   | lagged log all imports | 7.171286  | 2.012648  | 0        | 13.0876  |
| United Kingdom (GBR)<br>2471 obs. | Variable               | Mean      | Std. Dev. | Min      | Max      |
|                                   | log aid                | .8514467  | 2.260599  | -4.60517 | 5.849872 |
|                                   | log population         | 16.00948  | 1.546396  | 12.30671 | 20.97667 |
|                                   | log GDP                | 7.879746  | .8659996  | 6.178476 | 10.70551 |
|                                   | # killed               | 489.8936  | 7722.021  | 0        | 300000   |
|                                   | postwar                | .0772966  | .2671156  | 0        | 1        |
|                                   | polity                 | .0408741  | 7.07756   | -10      | 10       |
|                                   | polity transition      | .0008094  | .028444   | 0        | 1        |
|                                   | BD Policy              | .4548766  | .4980605  | 0        | 1        |
|                                   | oil                    | 2.294615  | 10.72941  | 0        | 133.25   |
|                                   | war                    | .0772966  | .2671156  | 0        | 1        |
|                                   | former colony          | .2776204  | .4479157  | 0        | 1        |
|                                   | political alignment    | .2270336  | .4189993  | 0        | 1        |
|                                   | UNSC                   | 42.54917  | 161.1211  | 0        | 1221     |
|                                   | UN voting alignment    | .5860477  | .0929543  | .3993506 | 1        |
|                                   | lagged log exports     | 4.029561  | 1.780711  | 0        | 8.117226 |
|                                   | lagged log imports     | 3.771724  | 2.034189  | 0        | 9.26052  |
|                                   | lagged log all exports | 7.3059    | 1.886482  | 0        | 12.5088  |
|                                   | lagged log all imports | 7.147374  | 2.002624  | 0        | 13.0876  |

| United States (USA)<br>2399 obs. | Variable               | Mean      | Std. Dev. | Min      | Max      |
|----------------------------------|------------------------|-----------|-----------|----------|----------|
|                                  | log aid                | 3.046075  | 1.753187  | -4.60517 | 8.959183 |
|                                  | log population         | 16.01915  | 1.535003  | 12.47972 | 20.97667 |
|                                  | log GDP                | 7.853908  | .8469107  | 6.178476 | 10.02417 |
|                                  | # killed               | 483.0842  | 7793.561  | 0        | 300000   |
|                                  | postwar                | .0766986  | .2661681  | 0        | 1        |
|                                  | polity                 | -.0050021 | 7.052287  | -10      | 10       |
|                                  | polity transition      | .0008337  | .0288675  | 0        | 1        |
|                                  | BD policy              | .4476865  | .4973594  | 0        | 1        |
|                                  | oil                    | 1.972584  | 10.73022  | 0        | 262.73   |
|                                  | war                    | .0779491  | .2681474  | 0        | 1        |
|                                  | former colony          | .0116715  | .1074249  | 0        | 1        |
|                                  | political alignment    | .2313464  | .4217812  | 0        | 1        |
|                                  | UNSC                   | 42.06461  | 160.5664  | 0        | 1221     |
|                                  | UN voting alignment    | .3615605  | .1172837  | .1689189 | .7363636 |
|                                  | lagged log exports     | 4.814886  | 2.196771  | 0        | 11.59683 |
|                                  | lagged log imports     | 4.758642  | 2.553019  | 0        | 11.82148 |
|                                  | lagged log all exports | 7.248561  | 1.872991  | 0        | 12.5088  |
|                                  | lagged log all imports | 7.088391  | 1.983854  | 0        | 13.0876  |

Table A2: Allocation Regressions by Donor  
For donors with former colonies

|                        | ESP                    | FRA                    | GBR                   | NLD                    | USA                    |
|------------------------|------------------------|------------------------|-----------------------|------------------------|------------------------|
| log population         | 0.169*<br>(2.15)       | 0.245***<br>(8.80)     | 0.734***<br>(18.15)   | 0.740***<br>(20.03)    | 0.407***<br>(12.18)    |
| × colony dummy         | -0.0895<br>(-0.44)     | -0.109*<br>(-2.09)     | -0.441***<br>(-9.30)  | 15.06<br>(0.71)        | -2.728<br>(-0.81)      |
| log GDP                | -0.508***<br>(-3.68)   | -0.703***<br>(-14.35)  | -0.573***<br>(-7.88)  | -0.613***<br>(-9.79)   | -0.304***<br>(-5.13)   |
| × colony dummy         | -0.825*<br>(-2.14)     | 0.404***<br>(4.01)     | -0.645***<br>(-6.96)  | -7.525<br>(-0.98)      | -2.893<br>(-0.48)      |
| # killed               | -0.00000453<br>(-0.33) | -0.00000176<br>(-0.57) | 0.00000410<br>(0.96)  | -0.00000255<br>(-0.63) | -0.00000415<br>(-1.16) |
| × colony dummy         | -0.000555<br>(-0.52)   | -0.0000757<br>(-0.28)  | 0.00000506<br>(0.47)  | -0.000553<br>(-0.95)   | 0.0000347<br>(0.21)    |
| postwar                | 0.831***<br>(3.80)     | -0.227*<br>(-2.25)     | 0.143<br>(1.07)       | 0.543***<br>(4.39)     | 0.373***<br>(3.36)     |
| × colony dummy         | -1.199<br>(-1.41)      | -0.258<br>(-0.94)      | 0.0289<br>(0.11)      | -0.664<br>(-0.88)      | -0.629<br>(-1.03)      |
| polity                 | 0.0201<br>(1.76)       | 0.0335***<br>(7.46)    | 0.0599***<br>(9.36)   | 0.0501***<br>(9.09)    | 0.00752<br>(1.53)      |
| × colony dummy         | 0.0399<br>(0.79)       | -0.00587<br>(-0.48)    | -0.0323**<br>(-3.04)  | 0.0350<br>(0.31)       | 0.0516<br>(0.57)       |
| polity transition      | -0.862<br>(-0.60)      | 1.840<br>(1.57)        | 1.059<br>(1.00)       | 0.0816<br>(0.07)       | 1.207<br>(1.26)        |
| × colony dummy         |                        | 2.641<br>(1.58)        |                       |                        |                        |
| BD policy              | 0.118<br>(0.87)        | 0.0398<br>(0.73)       | -0.0620<br>(-0.81)    | 0.159*<br>(2.39)       | 0.440***<br>(7.50)     |
| × colony dummy         | 1.069*<br>(2.56)       | -0.348*<br>(-2.50)     | 0.0519<br>(0.35)      | -1.972<br>(-1.11)      | -0.442<br>(-0.41)      |
| colony dummy           | 9.833***<br>(3.31)     | -0.157<br>(-0.13)      | 14.17***<br>(11.81)   | -226.1<br>(-0.65)      | 73.51<br>(1.26)        |
| oil                    | -0.0268***<br>(-6.41)  | -0.00614***<br>(-6.20) | -0.0174***<br>(-5.61) | -0.00722***<br>(-3.33) | -0.0140***<br>(-5.11)  |
| war                    | -0.0678<br>(-0.30)     | -0.244**<br>(-2.69)    | -0.0125<br>(-0.10)    | 0.397***<br>(3.32)     | 0.0920<br>(0.85)       |
| political alignment    | 0.376**<br>(2.80)      | 0.0143<br>(0.25)       | 0.0224<br>(0.29)      | 0.155*<br>(2.01)       | -0.0956<br>(-1.41)     |
| UNSC                   | 0.0000522<br>(0.17)    | 0.000101<br>(0.67)     | 0.0000708<br>(0.36)   | 0.000167<br>(0.83)     | -0.0000240<br>(-0.13)  |
| UN voting alignment    | -6.705***<br>(-6.71)   | -0.526<br>(-1.05)      | 2.671***<br>(4.39)    | 1.499*<br>(2.40)       | -0.550<br>(-1.30)      |
| lagged log exports     | 1.015***<br>(13.40)    | 0.888***<br>(27.50)    | 0.0577<br>(1.16)      | 0.0381<br>(0.86)       | 0.482***<br>(14.66)    |
| lagged log imports     | 0.0474<br>(0.67)       | 0.0789**<br>(2.65)     | 0.217***<br>(6.09)    | 0.0737*<br>(2.33)      | -0.0105<br>(-0.39)     |
| lagged log all exports | -0.250<br>(-1.94)      | -0.289***<br>(-5.97)   | -0.0947<br>(-1.47)    | 0.138*<br>(2.25)       | 0.121*<br>(2.10)       |
| lagged log all imports | -0.0861<br>(-0.67)     | -0.0876<br>(-1.83)     | -0.0258<br>(-0.44)    | -0.358***<br>(-6.15)   | -0.395***<br>(-6.71)   |
| N                      | 1215                   | 2523                   | 2471                  | 2477                   | 2399                   |

t statistics in parentheses

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Estimation via OLS

Table A2: Allocation Regressions by Donor  
For donors with no former colonies

|                                  | CAN                   | CHE                   | DEU                    | DNK                   | ITA                   | JPN                    | NOR                   | SWE                   |
|----------------------------------|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|
| log population                   | 0.534***<br>(13.64)   | 0.852***<br>(18.47)   | 0.804***<br>(28.22)    | 0.258***<br>(4.36)    | 0.395***<br>(7.75)    | 0.616***<br>(17.53)    | 0.482***<br>(10.00)   | 0.174**<br>(3.01)     |
| log GDP                          | -0.343***<br>(-5.11)  | -0.0764<br>(-1.02)    | -0.319***<br>(-6.68)   | -0.954***<br>(-10.50) | -0.469***<br>(-5.50)  | -0.508***<br>(-8.34)   | -0.853***<br>(-10.53) | -0.600***<br>(-6.13)  |
| # killed                         | 0.000000260<br>(0.07) | 0.00000199<br>(0.48)  | -0.00000587<br>(-1.84) | 0.00000601<br>(1.18)  | 0.00000128<br>(0.25)  | -0.00000457<br>(-1.09) | 0.00000115<br>(0.25)  | 0.00000309<br>(0.61)  |
| postwar                          | -0.247*<br>(-2.01)    | 0.195<br>(1.63)       | -0.200*<br>(-2.13)     | -0.122<br>(-0.71)     | 0.377*<br>(2.36)      | -0.647***<br>(-5.26)   | 0.577***<br>(4.00)    | 0.590***<br>(3.58)    |
| polity                           | -0.0111*<br>(-2.02)   | 0.0132*<br>(2.35)     | 0.0279***<br>(6.83)    | 0.0172*<br>(2.12)     | 0.00335<br>(0.44)     | 0.0218***<br>(4.11)    | 0.0501***<br>(7.05)   | 0.0219**<br>(2.69)    |
| polity transition                | 2.032<br>(1.89)       | 0.641<br>(0.57)       | 1.856*<br>(2.16)       |                       | 3.344*<br>(2.38)      | -2.302*<br>(-2.05)     | -1.400<br>(-1.13)     | 1.577<br>(1.16)       |
| BD policy                        | -0.124<br>(-1.90)     | -0.221**<br>(-3.19)   | 0.130**<br>(2.63)      | 0.146<br>(1.49)       | 0.173*<br>(1.97)      | 0.0117<br>(0.18)       | 0.163*<br>(1.96)      | 0.133<br>(1.37)       |
| oil                              | -0.0178***<br>(-7.82) | -0.0281***<br>(-9.78) | -0.00871***<br>(-8.71) | -0.0278***<br>(-5.00) | -0.0161***<br>(-7.89) | -0.00955***<br>(-7.28) | -0.00909**<br>(-3.28) | -0.00946**<br>(-2.62) |
| war                              | -0.130<br>(-1.10)     | 0.361**<br>(3.03)     | -0.519***<br>(-5.60)   | -0.339*<br>(-2.05)    | 0.633***<br>(4.12)    | -1.064***<br>(-8.54)   | 0.885***<br>(6.25)    | 0.549***<br>(3.38)    |
| political alignment              | 0.0227<br>(0.31)      | -0.899*<br>(-2.46)    | 0.124*<br>(2.10)       | -0.0234<br>(-0.22)    | 0.0132<br>(0.10)      | 0.0261<br>(0.32)       | 0.206*<br>(2.24)      | 0.495***<br>(4.88)    |
| UNSC                             | 0.000205<br>(1.04)    | 0.0000393<br>(0.19)   | 0.000132<br>(0.85)     | -0.000482<br>(-1.80)  | 0.000507<br>(1.92)    | -0.000234<br>(-1.16)   | 0.000310<br>(1.31)    | 0.000210<br>(0.80)    |
| UN voting alignment              | 4.044***<br>(6.31)    |                       | 1.250**<br>(2.60)      | 1.312<br>(1.39)       | -0.888<br>(-1.04)     | 0.429<br>(0.63)        | 1.572*<br>(2.03)      | -0.812<br>(-0.89)     |
| lagged log exports               | 0.705***<br>(16.99)   | -0.0257<br>(-0.47)    | 0.304***<br>(8.59)     | 0.915***<br>(12.89)   | 0.664***<br>(11.79)   | 0.495***<br>(14.02)    | 0.266***<br>(5.16)    | 0.664***<br>(11.20)   |
| lagged log imports               | -0.0458<br>(-1.51)    | -0.0202<br>(-0.51)    | 0.0917***<br>(3.48)    | 0.000739<br>(0.01)    | 0.0212<br>(0.44)      | 0.135***<br>(5.16)     | 0.0284<br>(0.67)      | -0.0363<br>(-0.76)    |
| lagged log all exports           | -0.387***<br>(-6.70)  | 0.453***<br>(6.62)    | -0.204***<br>(-4.28)   | -0.352***<br>(-4.13)  | -0.432***<br>(-4.87)  | -0.0273<br>(-0.44)     | -0.173*<br>(-2.38)    | -0.264**<br>(-3.13)   |
| lagged log all imports           | 0.107<br>(1.93)       | -0.715***<br>(-11.91) | -0.138**<br>(-3.16)    | -0.0573<br>(-0.75)    | 0.0465<br>(0.58)      | -0.0896<br>(-1.57)     | -0.115<br>(-1.68)     | -0.167*<br>(-2.07)    |
| N                                | 2453                  | 2339                  | 2694                   | 1852                  | 2290                  | 2669                   | 2022                  | 1831                  |
| t statistics in parentheses      |                       |                       |                        |                       |                       |                        |                       |                       |
| * p<0.05, ** p<0.01, *** p<0.001 |                       |                       |                        |                       |                       |                        |                       |                       |
| Estimation via OLS               |                       |                       |                        |                       |                       |                        |                       |                       |

Table A3: Descriptive Statistics for Growth Regression Sample  
(362 observations; 62 countries)

| Variable            | Mean      | Std. Dev. | Min        | Max      |
|---------------------|-----------|-----------|------------|----------|
| GDP growth          | 1.092133  | 3.415615  | -12.96011  | 17.05426 |
| Initial GDP         | 6.800601  | 1.06149   | 4.657915   | 8.987198 |
| Assassinations      | .4854972  | 1.25047   | 0          | 11.5     |
| × Fractionalization | 17.60704  | 58.09222  | 0          | 736      |
| Financial Depth     | 28.04208  | 16.32562  | 6.085686   | 120.8928 |
| BD Policy Index     | -128.1457 | 682.4691  | -8750.868  | 5.870643 |
| Aid/GDP             | .0380722  | .0421961  | .000000153 | .3310182 |
| × Policy Index      | -7.398583 | 69.71358  | -1214.182  | .3758931 |
| Need Aid/GDP        | .0224103  | .0257368  | .000000153 | .2100129 |
| × Policy Index      | -4.099119 | 38.22349  | -681.758   | .1447021 |

Table A4: Variable Definitions and Sources

| Allocation Equations   |   |                                    |
|------------------------|---|------------------------------------|
| Variable               | Definition  | Source                             |
| log aid                | Log of total official gross bilateral disbursements in millions of 2006 dollars           | OECD DAC (2006)                    |
| log population         | Log of population   | World Bank (2008)                  |
| log GDP                | Log of GDP per capita in PPP terms  | World Bank (2008)                  |
| # killed               | Number of people killed by natural disasters  | EM-DAT (2007)                      |
| postwar                | 0/1 indicator for 5 year period following "war"   | Gleditsch <i>et al.</i> (2002)     |
| polity                 | -10 to 10 autocracy to democracy polity2 index  | Marshall and Jaggers (2008)        |
| polity transition      | 0/1 indicator for polity2=-88 (transition)  | Polity IV Project (2005)           |
| BD policy              | Burnside-Dollar policy quality index  | Burnside and Dollar (2000)         |
| oil                    | Proven oil reserves, billion barrels  | British Petroleum (2007)           |
| war                    | 0/1 indicator of war with at least 1000 conflict deaths                                   | Gleditsch <i>et al.</i> (2002)     |
| former colony          | 0/1 former colony indicator (recipient/donor pairing)                                     | Correlates of War (2003)           |
| political alignment    | 0/1 indicator of executive political alignment between donor and recipient (LL, RR, etc.) | Beck et al. (2001)                 |
| UNSC                   | 0/1 indicator of UNSC membership in important year  | Kuziemko and Werker (2006)         |
| UN voting alignment    | UN voting alignment between donor and recipient   | Voeten and Merdzanovic (2008)      |
| lagged log exports     | log of exports from donor to recipient, lagged 1 year                                     | IMF (2006A, 2006B)                 |
| lagged log imports     | log of imports from donor to recipient, lagged 1 year                                     | IMF (2006A, 2006B)                 |
| lagged log all exports | log of exports from world to recipient, lagged 1 year                                     | IMF (2006A, 2006B)                 |
| lagged log all imports | log of imports from world to recipient, lagged 1 year                                     | IMF (2006A, 2006B)                 |
| Growth Equations       |   |                                    |
| Variable               | Definition  | Source                             |
| GDP growth             | Growth rate of GDP per capita   | World Bank (2008)                  |
| Initial GDP            | GDP per capita in PPP terms at start of 4 year period                                     | World Bank (2008)                  |
| Assassinations         | Number of assassinations  | Banks (2002)                       |
| Fractionalization      | Ethno-linguistic fractionalization  | Easterly and Levine (1997)         |
| Financial Depth        | M2 / GDP lagged one 4 year period   | World Bank (2008)                  |
| BD Policy Index        | Burnside-Dollar policy quality index  | Burnside and Dollar (2000)         |
| Aid/GDP                | Total official gross bilateral disbursements / GDP  | OECD DAC (2006), World Bank (2008) |
| Need Aid/GDP           | Estimated need-based aid / GDP  | Authors' calculations              |

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