

# Geopolitics, Aid, and Growth

## The Impact of UN Security Council Membership on the Effectiveness of Aid

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Development Economics Vice Presidency

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July 2016

## Abstract

The paper investigates the effects of short-term political motivations on the effectiveness of foreign aid. Specifically, the paper tests whether the effect of aid on economic growth is reduced by the share of years a country served on the United Nations Security Council (UNSC) in the period the aid is committed, which provides quasi-random variation in aid. The results show that the effect of aid on growth is significantly lower when aid was committed during a country's tenure on the UNSC. This holds when

we restrict the sample to Africa, which follows the strictest norm of rotation on the UNSC and thus where UNSC membership can most reliably be regarded as exogenous. Two conclusions arise from this. First, short-term political favoritism reduces the effectiveness of aid. Second, results of studies using political interest variables as instruments for overall aid arguably estimate the effect of politically motivated aid and thus a lower bound for the effect of all aid.

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# Geopolitics, Aid, and Growth: The Impact of UN Security Council Membership on the Effectiveness of Aid

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Keywords: Aid effectiveness, economic growth, politics and aid, UNSC membership

JEL codes: F35, F53, O11, O19

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“UNSC membership offers a quasi-experiment  
to assess the impact of unconditional aid.”

(Bueno de Mesquita and Smith 2010)

The debate on whether or not foreign aid is effective in promoting growth in recipient countries is ongoing and heated. Some papers find aid to be effective (Galiani et al. 2014), while others show that the effectiveness of aid is conditional on policies or institutions (Svensson 1999, Burnside and Dollar 2000). Still others find that aid has no effect on growth at all (Rajan and Subramanian 2008; Nowak-Lehmann et al. 2012). Arguably, much of this controversy is due to the lack of an accepted identification strategy. Endogeneity between aid and growth looms large, and no consensus exists in the academic literature as to which of the many papers contributing to the debate convincingly address the identification problem.<sup>1</sup> In this paper, rather than suggesting a new identification strategy to estimate the effect of aid on growth, we narrow the lens and investigate whether an important type of aid – aid given for political reasons – is less effective than other types of aid.

Specifically, this paper investigates whether foreign aid given to temporary members of the United Nations Security Council (UNSC) is less effective in promoting growth than aid given at other times. We discuss a number of reasons why donors’ motives for giving aid can influence

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1. Dreher and Langlotz (2015) provide a detailed discussion.

its effectiveness.<sup>2</sup> As we explain in more detail in section 2, if donors are motivated purely by self-interest, their allocation decision might not take into account the way the recipient uses the aid. Donors may then fail to include growth-promoting policy conditions or waive them in case of non-compliance. Additionally, favoritism might allow projects to be pursued where important preconditions are not met or might reduce the time and resources devoted to the preparation of a project. The recipient might choose to use disbursed aid for purposes other than development if punishment for non-compliance is less likely, resulting in inferior growth outcomes on average. What is more, a politically motivated allocation of aid may result in the approval of lower-quality aid projects in favored countries instead of more promising projects elsewhere.

We exploit temporary membership on the UNSC to identify how geostrategic donor motives change the effect of aid on recipient country economic growth. As we detail in Section 3, temporary membership gives countries a powerful voice on the international stage. Such power is associated with benefits. Kuziemko and Werker (2006) show that temporary members receive a substantial increase in foreign aid commitments from the United States in years they serve as temporary members of the UNSC. This pattern holds for a broad range of donors, as shown in Dreher et al. (2009a, 2009b) and Vreeland and Dreher (2014): The United States, Japan, Germany, as well as multilateral organizations such as the International Monetary Fund, the World Bank, the Asian Development Bank, the African Development Bank, and UNICEF, where major shareholders can to some extent steer the organizations' funds in line with their geopolitical

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2. A handful of studies consider the impact of donor characteristics on aid effectiveness (Bobba and Powell 2007; Headey 2008; Kilby and Dreher 2010; Bearce and Tirone 2010; Minoiu and Reddy 2010; Bermeo 2011). None of these studies provides a convincing identification strategy.

interests. We test whether and to what extent the aid received during a country's tenure on the UNSC affects growth differently compared to aid given at other times.

We test the effect of a recipient country's geostrategic importance on the effectiveness of aid in promoting growth by adding UNSC membership and its interaction with aid to specifications that are otherwise identical to Clemens et al.'s (2012) first-difference permutations of Burnside and Dollar (2000). Specifically, we interact aid disbursements with nonpermanent UNSC membership at the time the aid was committed. Our approach thus resembles a difference-in-difference strategy, where we identify the differential effect of aid on growth as temporary membership on the UNSC varies.<sup>3</sup> The estimated effect of UNSC membership on aid effectiveness is causal to the extent that the difference in growth between members and non-members of the UNSC following changes in aid cannot be attributed to changes other than receiving more aid. The appropriateness of this approach is supported by Bueno de Mesquita and Smith (2010), who show that economic growth is not significantly different in countries at times they are elected to the UNSC compared to other times.<sup>4</sup> Pre-UNSC growth trends indicate that the common-trend assumption is reasonable in our analysis.

While aid itself is arguably endogenous to contemporaneous growth, we are interested in the interaction of aid with UNSC membership rather than the effect of aid. UNSC membership is allocated quasi-randomly with respect to growth, aid and other potential determinants of aid and

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3. This follows Dreher et al. (2013), who investigate the effect of recipient countries' geostrategic importance on the evaluation of World Bank projects. Their results show that for projects approved during times of macroeconomic crisis temporary UNSC membership reduces the probability of a positive evaluation upon completion.

4. Bueno de Mesquita and Smith (2010) show that temporary members grow more slowly as a consequence of serving on the UNSC and argue that this reflects the negative effects of aid. They do not include aid in any of their models however.

growth (Bueno de Mesquita and Smith 2010; Dreher et al. 2014b). We thus assume that UNSC membership is exogenous to (future) growth and interpret the coefficient of the interaction term causally. More specifically, while the causal interpretation of the effect of aid on growth rests on the assumptions in Clemens et al. (2012), we do not have to rely on these assumptions to interpret the differential effect between politically motivated and other aid in a causal way. We explain this in more detail below. In a nutshell, omitted variables would have to be related to growth and to the interaction between UNSC membership and aid, and follow a very specific time-structure to affect our results. We perform placebo tests for different timings and a series of tests that include potentially important omitted variables. None of this changes our conclusions.

Based on a sample of 54 countries over the 1974–2009 period, we find that the effect of aid on growth is reduced by UNSC membership (see section 4). This result holds when we restrict the sample to Africa, which follows the strictest norm of rotation on the UNSC and thus where UNSC membership can most reliably be regarded as exogenous (Vreeland and Dreher 2014) and is robust to a battery of other tests.

Our results have at least two important implications. First, to the extent that aid is given for geostrategic reasons, it should not be considered “development” aid. It might be effective in achieving the donors’ geostrategic objectives, but it is less effective than other aid in promoting developmental outcomes such as growth. Including such political aid in the category of development aid is likely to blur the potentially measurable effects of “true” development aid and is likely to add to frustration in the populations of donor countries granting the aid, ultimately reducing even those parts of aid that could be effective in raising growth.

The second implication of our results concerns the instrumental variables scholars use to identify the effect of aid on growth. A large number of studies base their analysis on instruments that proxy the geopolitical importance of a recipient country to the donor, implicitly or explicitly generalizing the Local Average Treatment Effect (LATE) to be representative of all aid, rather than political aid exclusively.<sup>5</sup> If geopolitical aid or aid given to recipients with political leverage more generally is less effective than other aid, the literature using political connections as instruments would not provide evidence of the ineffectiveness of overall aid, but rather of aid given to politically important countries. Their estimates would represent a lower bound for the effects of overall aid, which could explain the lack of a positive effect of aid on growth in a large number of studies (e.g., Rajan and Subramanian 2008).

## I. A THEORY OF POLITICALLY MOTIVATED AID

It seems intuitive to assume that politically motivated aid is less effective than aid mainly given to promote development.<sup>6</sup> As Rajan and Subramanian (2008: 655) point out, however, “to characterize strategic aid as ‘bad’ aid is mixing motives and consequences.” According to Dreher et al. (2013), there are indeed good reasons why politically motivated aid may be just as effective

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5. The number of papers is too large to cite them all. A number of recent papers use (changes in) voting alignment between the donor and recipient in the United Nations General Assembly (e.g., Aurore and Maurel 2013; Bjørnskov 2013; Midtgaard et al. 2014; Creasey et al. 2015). Others use temporary membership in the United Nations Security Council, which is the focus of our paper (Christensen et al. 2011; Drometer 2013; Breitwieser and Wick 2016).

6. Consider as example Morgenthau (1962, 303, as cited in Werker 2012): “Bribery disguised as foreign aid for economic development makes of giver and recipient actors in a play which in the end they may no longer be able to distinguish from reality. In consequence, both may come to expect results in terms of economic development which in the nature of things may not be forthcoming.”



as other forms of aid. Cold War donors, for example, may have wanted not only to curry favor with their client states, but also to help their allies succeed economically. A case in point, the East Asian Tigers received tremendous amounts of politically motivated assistance during the Cold War that does not appear to have impeded their economic development. Once an aid allocation decision has been made, the donor's aid bureaucracy must deliver the aid. The bureaucrats may want to implement effective programs regardless of the motivations of the donor, so that the existence of political favoritism in the allocation of aid need not imply its ineffectiveness. What is more, at any given time there may be a plethora of unfunded investment projects with similar potential effectiveness. Choosing among these projects according to political criteria may not necessarily reduce the average effectiveness of aid.

However, Kilby and Dreher (2010) and Dreher et al. (2013) stress that there are also strong reasons to expect that politically motivated aid is indeed less effective than average aid. The first is that a politically motivated allocation of aid may result in the approval of lower-quality aid projects in favored countries instead of more promising projects elsewhere. This presumes that the allocation decision is made in the presence of declining marginal returns, and political motivation results in projects with lower returns getting priority.

A second argument supporting the hypothesis of ineffective political aid is that politically motivated projects reduce the motivation of the donor and/or recipient to invest as much in the success of the project as they would otherwise. On the donor side, bureaucrats will arguably take account of their employer's incentive structure to some extent, as that might help them to advance in their careers or just spare them tedious work. To the extent that developmental outcomes do not enter the employer's utility function, less effort might be spent on the ground to promote

developmental objectives. Favoritism might thus allow projects to be pursued where important preconditions are not met or might reduce time and resources devoted to the preparation of a project (Kilby 2013, 2015). From the recipient's perspective, aid inflows may delay important policy reforms that would, among other things, also promote economic growth.

Focusing on the IMF and the World Bank, Stone (2008), Kilby (2009), and Nooruddin and Vreeland (2010) suggest that political favoritism undermines the credibility of conditionality, rendering it ineffective. Dreher and Jensen (2007) find that the conditions attached to loans given to political allies of the IMF's most important shareholders are less stringent. The results of Nielsen (2013) show that donors punish nonallies when they violate human rights by reducing aid but not their political allies. This does not imply that politically important countries necessarily follow unsound economic policies. Sometimes donors and recipients agree on policy; some recipient governments even invite policy conditionality (Vreeland 2003). Other times, governments may follow a different policy course than that recommended by the donor and still be successful. At other times, however, politically important recipient countries may be unable or unwilling to follow the donors' conditions even though their economy would benefit from the proposed adjustments.

Political motivations may also reduce the effectiveness of aid through a more subtle channel: Faye and Niehaus (2012) show that politically motivated aid might help facilitate political business cycles, as donors provide more aid to their political allies prior to elections. Aid thus helps incumbent governments to distort their economy, which can reduce growth rates directly (after the short-term stimulating effect of expansionary electoral policies evaporates). More importantly, this type of aid makes it more difficult for voters to select the "best" politicians,

as they receive distorted signals of competence. What is more, election-related aid can be seen as a valuable prize, increasing the number of incompetent political actors who enter the political stage or even leading to coup d'états (Werker 2012). This can on average lead to less competent politicians and might thus reduce growth rates. Finally, Bobba and Powell (2007) suggest that aid-receiving allies might feel more obliged to spend politically motivated aid in the donor country than recipients of developmentally-oriented aid, even if goods and services could be bought at a lower price and/or higher quality elsewhere.

In summary, while it is theoretically unclear whether political aid has a different effect, there are many good reasons to expect that it is less effective than aid intended to promote development. We therefore turn to the empirics to answer this question.

## II. DATA AND METHOD

Our proxy variable for geostrategic importance is a measure that has been shown in previous research to induce political favoritism: temporary membership on the UN Security Council. Ten temporary members are elected by the UN General Assembly, while five members serve on a permanent basis. Temporary members serve two-year terms, which are not immediately renewable. A number of studies show that temporary members of the UNSC receive substantial increases in aid, arguably due to the powerful geostrategic positions these countries enjoy during their tenure on the Council. Donors who have been shown to increase aid to members of the UNSC include the United States (Kuziemko and Werker 2006), Germany (Dreher et al. 2015), and Japan (Vreeland and Dreher 2014), as well as a number of multilateral organizations whose major shareholders have a substantial say over the allocation of resources and can to some extent sway

these organizations' decisions according to their political interests (Vreeland and Dreher [2014] provide a summary).

Even if formally elected by the United Nations General Assembly (UNGA), most decisions on who gets elected to the UNSC are made at regional caucuses, where norms and rules differ between regions.<sup>7</sup> Dreher et al. (2014b) and Vreeland and Dreher (2014) investigate these rules. They show that African nations typically rotate; Latin America and Asia hold competitive elections where regional hegemons win most often; Western Europe mixes rotation and competitive elections; and since the end of the Cold War, Eastern Europe shows no systematic pattern. Though which countries get elected to the UNSC is not strictly random, hardly any variable reliably predicts the timing of membership across regions. As Dreher et al. (2014b) summarize their results, "UNSC election appears to derive from a compromise between the demands of populous countries to win election more frequently and a norm of giving each country its turn. We also find evidence that richer countries from the developing world win election more often, while involvement in warfare lowers election probability. By contrast, development aid does not predict election." We control for GDP per capita and (internal and external) conflict either in all models, or in our tests for robustness, while the effect of population size is hardly relevant in first differences. Controlled for the variables in the model, UNSC membership can thus be considered exogenous to growth. Arguably, the rotation among African

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7. In around 80 percent of the elections only one country—nominated by a specific region—runs for election (Vreeland and Dreher 2014). Decisions at the regional caucuses are thus crucial in these elections.

countries provides the most reliably exogenous variation on when countries serve on the UNSC across our sample period.<sup>8</sup> We make use of this exogeneity by replicating our results for Africa.

To allow comparability with existing research, our analysis closely follows the approach in Clemens et al. (2012), adding our variables of interest to their models. Clemens et al. show that the most prominent previous attempts to control for the potential endogeneity of aid rely on invalid instruments. Instead of suggesting more valid ones, they address the potential endogeneity of aid by differencing the regression equation and lagging aid, so that it can reasonably be expected to cause growth rather than being its effect. Thus, they assume that the main (short-term) effects of aid on growth occur, on average, one four-year-period after its disbursement. We base our analysis on their permutations of Burnside and Dollar (2000)—the study that arguably gained most attention in the recent literature on aid and growth. While we believe (as do Clemens et al. 2012) that OLS regressions are superior to two-stage least squares regressions with questionable instruments, we stress that our estimate of whether aid affects growth could be biased in either direction,<sup>9</sup> and we refrain from interpreting the aid-growth relationship as causal. Instead, we focus on how temporary UNSC-membership causally changes the effect of aid on growth.

In terms of timing, we follow Clemens et al. (2012) and assume that disbursed aid on average takes one four-year-period to become effective in increasing or decreasing economic

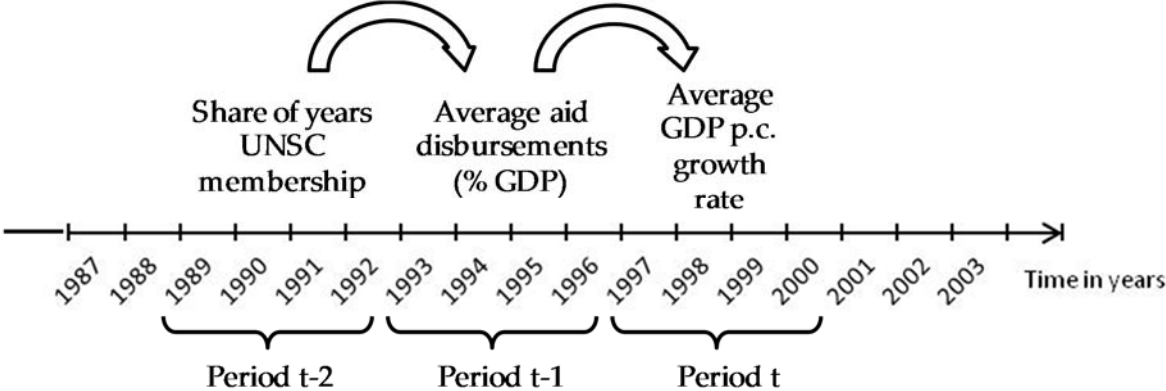
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8. For Africa, Vreeland, and Dreher (2014) find representation to be more likely for those countries with higher debt service payments, larger GNI per capita, greater voting alignment with the United States in the UNGA, and more corruption, controlling for country fixed effects. We control for these variables either in all regressions or in the robustness section.

9. For example, donors might grant more aid to a new reform-oriented government. Increased growth resulting from these reforms could then spuriously be attributed to the increases in aid. On the other hand donors might give more aid to countries where they anticipate shocks to reduce future growth rates.

growth.<sup>10</sup> We also assume that bottlenecks in the donor and recipient administrations prevent aid committed from being disbursed immediately, so that the bulk of aid committed in one four-year-period is disbursed one period later, on average.<sup>11</sup> In accordance with these assumptions about the timing of the aid disbursement and growth effects of aid we are interested in growth rates two periods after UNSC membership. We illustrate the timeline derived from our considerations in Figure 1 (but also test different timings below).

FIGURE 1. The Proposed Timeline



**Notes:** The figure shows the lag that we expect between aid commitments and its effect on growth. We expect aid committed due to temporary membership on the UNSC in one four-year period to be disbursed in the next, and to be effective (or not) yet one four-year period later.

10. As summarized in Headey (2008), aid affects growth most substantially 5–9 years after it has been disbursed, on average. If aid is disbursed evenly over time, the average positive distance between a dollar being disbursed and growth in the contemporaneous four-year-period is 16 months (Roodmann 2007; Headey 2008). Headey thus lags aid by one four-year period, so that the average positive distance between disbursements and their potential effects is five years and four months.

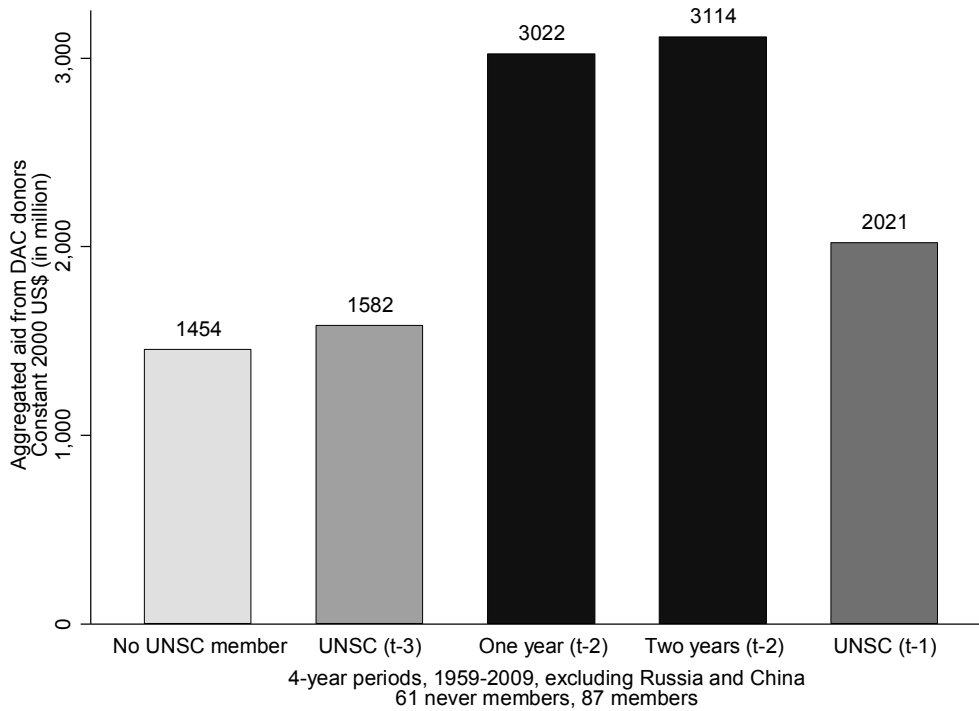
11. For example, a 1999 report of the British House of Commons’ Select Committee on International Development reports a delay between European Commission aid commitments and disbursements of almost five years (cited in Odedokun 2003, 7). See OECD (2003) for an in-depth discussion of reasons for delayed disbursements.

We expect that aid committed in period (t-2), which is disbursed in period (t-1), is less effective in promoting growth in period (t) for countries that are UNSC-member during period (t-2). Figures 2–4 provide a first impression of the data. Figure 2 shows total aid commitments (in constant 2000 million US dollars) from all DAC-donors for four-year-periods, to countries that either do not serve in any of the periods shown in the figure, serve one, or serve two years of a period on the UNSC.<sup>12</sup> We also show the amount of aid UNSC members received in the period before serving on the UNSC (i.e., period t-3) and the first period in which they no longer serve (t-1). As can be seen, aid commitments are substantially larger for countries that have served one or two years out of a four-year-period on the UNSC, compared to countries that do not serve. They are also larger for UNSC members compared to what these same countries received in the previous period and to what they receive in the period after they have been on the UNSC (these differences are statistically significant at the one-percent level).

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12. This is in line with Bueno de Mesquita and Smith (2010).

FIGURE 2. Total Aid Commitments and Temporary UNSC Membership



**Notes:** The figure shows total aid commitments, where “t” refers to the period we expect the aid to impact on growth. “No UNSC” refers to countries that are not temporary member of the UNSC in any of the periods shown; “t-2” is the period of temporary UNSC membership. We show aid committed while countries serve on the UNSC either one or two years of a four-year period (in “t-2”), the amount of aid committed to those who will serve on the UNSC in the next period (“t-3”) and those who have served in the previous period (“t-1”).

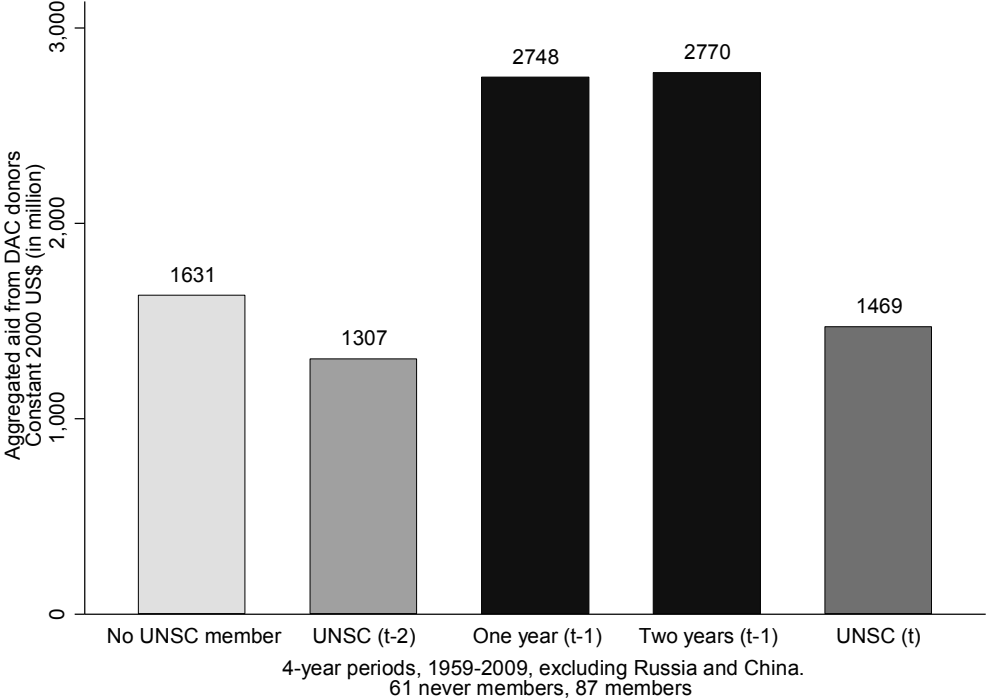
**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

Figure 3 focuses on net aid disbursements (also in constant 2000 million US dollars) one four-year-period after a country has been on the UNSC. For comparison, the figure also shows aid disbursements for countries that have not been on the UNSC in any of the periods shown in the figure, as well as disbursements at the time the country is on the UNSC (i.e., UNSC (t-2)), and two periods later (UNSC (t)). The figures support the hypothesized pattern: While commitments increase in the contemporaneous four-year-period of membership (t-2); the accompanying disbursements increase in the period following UNSC membership (t-1). Thus, aid commitments



during UNSC membership indeed seem to be disbursed on average one period later. Both commitments and disbursements move back to their initial levels in periods (t-1) and (t), respectively, increasing our confidence in this time structure. Overall, the effects coincide with UNSC membership, and disappear after the temporary member loses its extraordinary geopolitical importance.

FIGURE 3. Total Aid Disbursements and Temporary UNSC Membership



**Notes:** The figure shows total aid disbursements, where “t” refers to the period we expect the aid to impact on growth. “No UNSC” refers to countries that are not temporary member of the UNSC in any of the periods shown; “t-2” is the period of temporary UNSC membership. We show aid disbursed while countries have served on the UNSC in the previous period for either one or two years of a four-year period (in “t-1”), the amount of aid disbursed to those who serve on the UNSC in the current period (“t-2”) and those who have served two periods ago (“t”).

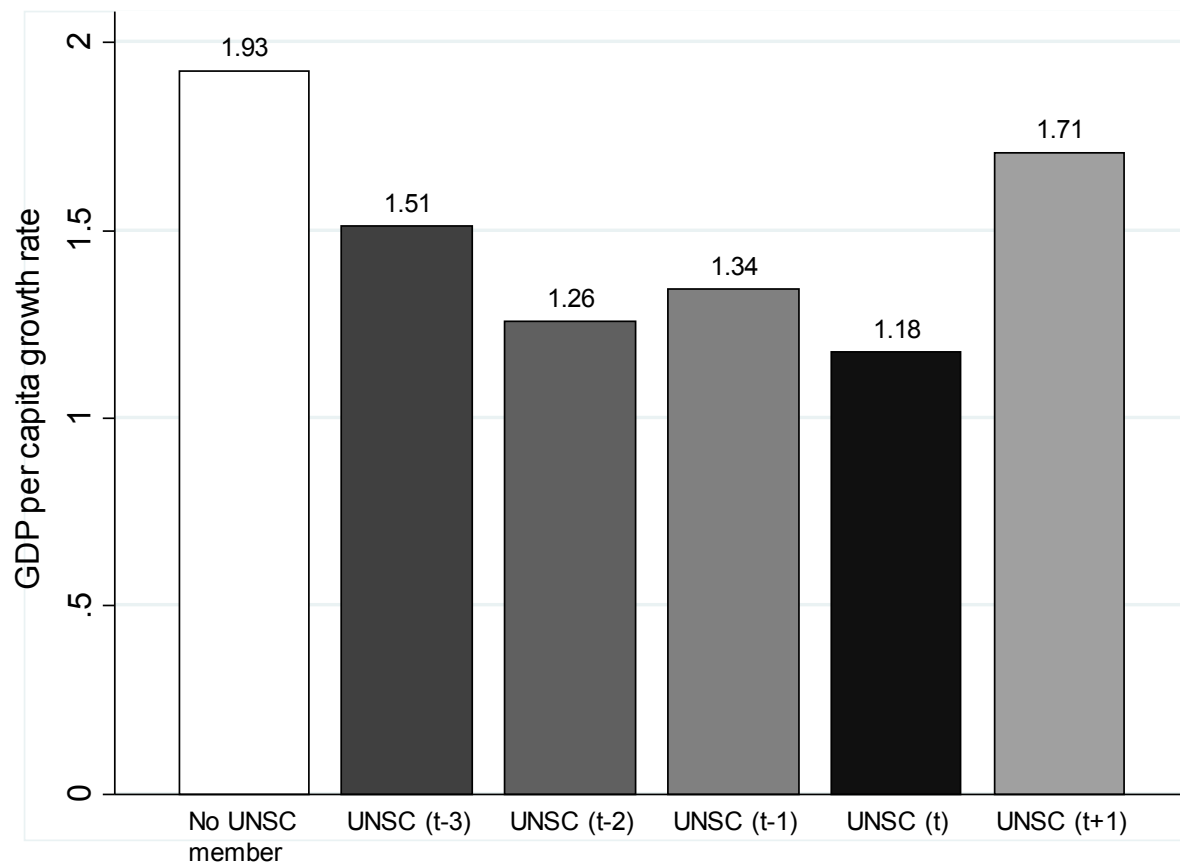
**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

Figure 4 shows mean yearly growth rates of per capita GDP for different lags of UNSC membership. The first bar displays the growth rates for countries that are not members of the UNSC. The other bars show the growth rates for different lags of UNSC membership: Growth during UNSC membership, one period before, one period later, two periods later, and three periods later. The figure shows that compared to countries not on the UNSC, temporary members subsequently experience lower growth rates.<sup>13</sup> As expected, growth is lowest two periods after UNSC membership. Also note that growth rates are substantially higher one further period later ( $t+1$ ). This pattern is in line with our hypothesis that the increased aid committed in period ( $t-2$ ) during temporary UNSC membership (figure 2), which is disbursed in large parts in period ( $t-1$ ) (figure 3), has an adverse effect on how aid affects growth in period ( $t$ ) (figure 4). While these descriptive statistics imply no causality, their pattern lends support to our story.

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13. This is in line with Bueno de Mesquita and Smith (2010).

FIGURE 4. GDP Per Capita Growth Rate (in Percent) and Temporary UNSC Membership



**Notes:** The figure shows GDP p.c. growth (averaged over four-year periods), according to whether or not countries have served as temporary members of the UNSC, where “*t*” refers to the period we expect the aid to impact on growth. “No UNSC” refers to countries that are not temporary member of the UNSC in any of the periods shown; “*t-2*” is the period of temporary UNSC membership. Growth rates are lowest two periods after membership (in “*t*”).

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

Next we turn to our econometric specification. According to Clemens et al. (2012), the appropriate method to test the effect of aid on economic growth accounts for the non-linear effect of aid through a square term, removes country fixed-effects through first-differencing, and lags aid by one period. As they argue, this minimizes potential misspecification due to reversed causality

between aid and growth, and omitted variables bias.<sup>14</sup> This is also our preferred estimation strategy. Following Clemens et al. (2012) our reduced-form empirical model is at the country-period level:

$$\Delta Growth_{i,t} = \alpha + \beta \Delta Aid_{i,t-1} + \gamma \Delta (Aid_{i,t-1}^2) + \delta UNSC_{i,t-2} + \zeta \Delta Aid_{i,t-1} * UNSC_{i,t-2} + \Delta X'_{i,t} \eta + \Delta \varepsilon_{i,t} \quad (1)$$

where  $Growth_{i,t}$  is a country  $i$ 's average yearly real GDP per capita growth over period  $t$ .  $Aid_{i,t-1}$  denotes the amount of aid (as a percentage of GDP) disbursed in the previous period;  $UNSC_{i,t-2}$  indicates the share of years country  $i$  was a temporary member of the UNSC two periods before.<sup>15</sup> As we expect that aid commitments are, on average, disbursed one period later, we twice-lag the share of temporary membership on the UNSC ( $UNSC_{i,t-2}$ ). All regressions include the complete set of (time-variant) control variables used by Clemens et al. (2012), which we denote  $X_{i,t}$ .<sup>16</sup> These variables are GDP per capita in the first year of each period, Assassinations, the interaction of Ethnic Fractionalization with Assassinations, M2/GDP (lagged), Policy, and period dummies.<sup>17</sup> Our preferred specification also includes aid squared to test decreasing returns to aid, again

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14. In addition, they seem to prefer a measure of early-impact aid over all aid. This measure has been shown to not be a robust predictor of growth (Rajan and Subramanian 2008; Bjørnskov 2013). What is more, a major drawback with this measure is that disaggregated aid disbursements are not available for the entire period, so that disbursements have to be estimated based on commitments. We therefore prefer to focus on overall aid. However, we replicate the analysis using early-impact aid instead of all aid below.

15. We exclude the permanent UNSC members Russia and China from the analysis.

16. Our appendix S1 reports the sources and definitions of all variables, while we show descriptive statistics in appendix S2.

17. The policy index is based on measures of budget balance, inflation, and openness to trade. The original Burnside and Dollar (2000) study also includes time-invariant variables that are removed here (as in Clemens et al. 2012) through taking first-differences.

following Clemens et al. (2012). Finally,  $\Delta\varepsilon_{i,t}$  is the error term which we allow to be heteroskedastic and arbitrarily correlated within countries.

Three potential concerns about our identification strategy deserve attention: First, one could argue that UNSC membership should be included in differences instead of levels. To us, it seems intuitive that the level rather than changes in UNSC membership conditions the effectiveness of changes in aid. Nevertheless, our results are robust to first-differencing the share of UNSC membership, as we show below. Second, it could be argued that temporary UNSC membership should be interacted with aid squared as well. Political motivation would then not only change the level of the marginal effect of aid, but also its slope. Such an interaction effect, however, is not significant in our models (the  $p$ -value being .99 in our preferred specification) and of a very small magnitude. As its inclusion is not compelling in terms of theory and complicates the interpretation of results, we do not include it here. Note however that this choice does not affect the results.<sup>18</sup>

A third and important concern is the potential endogeneity of aid. However, our coefficient of interest is the interaction between aid and UNSC membership ( $\zeta$  in equation (1)). This coefficient can be estimated consistently under a set of assumptions that do not require aid to be exogenous. Following Bun and Harrison (2014) and Nizalova and Murtazashvili (2016), supplemental appendix S4 provides a formal presentation of these assumptions.

The first assumption is the exogeneity of nonpermanent UNSC membership, conditional on the variables in the model. The second is that the endogeneity of aid due to any omitted

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18. See table S3.7 and figure S3.1 in our appendix S3.

variable bias must be independent of UNSC status. More specifically, we assume that any bias resulting from the (potential) endogeneity of aid (in  $t-1$ ) is the same in countries on and off the UNSC (in  $t-2$ ). Both assumptions find support in previous research. Bueno de Mesquita and Smith (2010), Dreher et al. (2014b), and Vreeland and Dreher (2014) test the possibility that countries that become politically or economically more important over time receive more aid, have a higher probability of being elected to the UNSC and have higher rates of economic growth simultaneously. Temporary members of the UNSC might be able to draw attention to their legitimate developmental needs, giving them access to additional funds that are unrelated to political motives. These authors find that election to the UNSC is hardly related to variables that also affect the amount of development aid a country receives or that systematically affect growth across regional caucuses. We tested whether growth differs in the period before countries enter the UNSC compared to all other periods. It does not ( $p$ -value: .47).<sup>19</sup> We tested whether economic volatility differs between countries on and off the UNSC. To the extent that the economies of countries elected to the UNSC are more volatile, such volatility could reduce the effect of aid on growth. The variance of economic growth of countries on and off the UNSC does not differ ( $p$ -value: .58). Finally, we make use of the varying regional norms in how members get elected to the UNSC introduced above. As emphasized in Vreeland and Dreher (2014), rotation of seats in the African region most strongly conforms to the assumption of randomly assigned membership status. We therefore replicate our regressions focusing on a sample of African countries and confirm our main results. Overall, conditional on the variables in our models, it seems reasonable

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19. This also holds two or three periods earlier, making the “common-trend assumption” plausible (see column 2, row 1 of table 2).

to assume that UNSC membership provides exogenous variation in the geopolitical importance of a country for the two years of membership.<sup>20</sup>

Of course, the exogeneity of temporary UNSC membership does not guarantee that membership has no effect on growth two periods later through channels other than aid. The existence of alternative channels would not affect the consistency of the estimated interaction term except in the case that such an omitted variable is also correlated with aid in a manner consistent with our timing. While we control for several potential determinants of growth that UNSC membership could most plausibly affect in the robustness section, it is impossible to rule out that other such variables exist. However, changes in these variables would need to change the effect of aid on growth in order to threaten our results. While a large number of variables have been suggested to increase or decrease the effectiveness of aid, many of these interactions have been shown to be fragile (e.g., Doucouliagos and Paldam 2009). But even if the effectiveness of aid depends on omitted variables that change due to temporary membership on the UNSC, we can still test whether UNSC membership causally changes the effectiveness of aid (though a differential effect of aid would then be caused by changes in external circumstances rather than by changes in the quality of the aid).

This would no longer be the case if donors allocate their aid in response to UNSC membership in a way that depends on omitted variables that in turn affect growth. For example,

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20. Alternatively, we can replace the assumption that nonpermanent UNSC membership is exogenous with the less restrictive assumption that any channel by which future growth affects UNSC status is independent of aid. More specifically, we would have to assume that any bias resulting from the (potential) endogeneity of UNSC ( $t-2$ ) is independent of  $\Delta\text{Aid}(t-1)$ . While this assumption is more lenient than assuming exogeneity of UNSC membership, it comes at the cost that the coefficient of UNSC membership itself is no longer estimated consistently. What is more, we are convinced of the exogeneity of UNSC membership, so we report this modified assumption for completeness only (in appendix S4).

donors might allocate more aid to countries experiencing economic downturns when these countries are UNSC members, so that the endogeneity of aid due to economic downturns would depend on UNSC status. Dreher et al. (2012) test whether the effect of UNSC membership on the number of (World Bank) aid projects depends on borrowing countries' need. They find this not to be the case. To further test the importance of potentially omitted variables in our regressions, we follow the approach of Altonji et al. (2005). We compare the relative impact that unobserved variables would need to have on our coefficients of interest compared to observable variables to make the interaction of UNSC membership and aid indistinguishable from zero. To this end, we include the interactions of temporary UNSC membership with variables indicating economic and political crises (as well as the respective variables in levels) to our preferred specification.<sup>21</sup> The coefficient of interest becomes larger rather than smaller and more precisely estimated. Overall, we consider a violation of our identifying assumptions unlikely.

To convince the reader of the reliability of our estimations, we control for a large number of variables in addition to those used in Clemens et al. (2012) which could potentially affect how UNSC membership changes the effect of aid on growth, and follow the time pattern we suggest: (changes in) the share of foreign direct investment, trade, and imports in recipient countries' GDP, various facets of institutional quality including internal and external conflict, and voting alignment with the United States in the UNGA. Controlling for these variables further increases our confidence that the difference-in-difference-like estimation we suggest identifies a causal difference in the effect of aid on growth depending on UNSC membership.

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21. Specifically, we include interactions with debt (as share of GNI), short term debt (as share of total external debt), GDP per capita at the beginning of each period, and assassinations to our baseline regression. Detailed results are available on request.



### III. RESULTS

Table 1 shows the main results, covering the 1974–2009 period. All data are averaged over four years. The dependent variable is the average annual growth rate of real GDP per capita; aid is measured as net Official Development Assistance (ODA) as a percentage of GDP.<sup>22</sup> When we do not account for diminishing returns to aid by including aid squared, the coefficient of the interaction term is negative and significant at the five-percent level (column 1). When we include aid squared, the interaction becomes significant at the one-percent level (column 2).<sup>23</sup> According to column 2, for any increase in  $\Delta Aid$ , the effectiveness of this change in aid disbursements decreases with the share of the period the recipient country has spent on the UNSC two periods before (i.e., when the aid has been committed). The causal effect of a one percentage point increase in aid as a percentage of GDP on yearly economic growth is 0.64 percentage points higher if the recipient has not served on the UNSC compared to if it has served two years (i.e., 1/2 of the four-year period). Compared to the average growth rate of about 1.34 percentage points in our sample, this is a substantial reduction of almost half the average growth rate. The results thus support our hypothesis that aid committed during times of short-term political importance is indeed less effective.

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22. The original source for GDP per capita growth is the World Bank’s World Development Indicators; ODA is total net ODA in current US\$ from table 2 of the OECD’s Development Assistance Committee in percent of GDP in current US\$, taken from the World Development Indicators (see the Technical Appendix to Clemens et al. 2012). Data for the 2006–2009 period are from Minasyan (2016) and World Bank (2016).

23. We also tested whether the effect differs when we only take important years of UNSC membership into account, as suggested in Kuziemko and Werker (2006). The results remain unchanged.

TABLE 1. Politically Motivated Aid and Growth, OLS, 1974–2009

	(1)	(2)	(3)	(4)
$\Delta$ Aid (t-1)	0.116 [0.085]	0.473** [0.208]	0.142 [0.139]	0.345 [0.329]
$\Delta$ Aid squared (t-1)		-0.010** [0.004]		-0.006 [0.006]
UNSC (t-2)	-1.384 [0.832]	-1.368 [0.836]	-1.737 [1.216]	-1.732 [1.247]
UNSC (t-2)* $\Delta$ Aid (t-1)	-0.981** [0.429]	-1.289*** [0.379]	-1.446*** [0.295]	-1.547*** [0.338]
$\Delta$ GDP p.c. at start of period	-3.607* [1.904]	-3.731** [1.801]	-1.472 [4.068]	-1.770 [3.745]
$\Delta$ Assassinations	-0.198 [0.179]	-0.184 [0.169]	0.695 [0.942]	0.486 [0.969]
$\Delta$ Assassinations * $\Delta$ Ethnolinguistic Fractionalization	0.337 [0.341]	0.307 [0.327]	-3.610 [3.354]	-3.172 [3.417]
$\Delta$ M2/GDP	-0.003 [0.016]	-0.004 [0.014]	0.043* [0.024]	0.039* [0.020]
$\Delta$ Policy	0.923*** [0.160]	0.940*** [0.165]	0.918** [0.330]	0.913*** [0.324]
Sample	All	All	Africa	Africa
Adj. R-Squared	0.171	0.190	0.139	0.142
Number of Observations	393	393	145	145
Number of countries	54	54	24	24

**Notes:** The dependent variable is growth of real GDP per capita and covers the 1974–2009 period. All regressions use averages over four years, include variables in first differences (except for the UNSC variable) and include period dummies. Robust standard errors in brackets (clustered at the recipient country level): \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

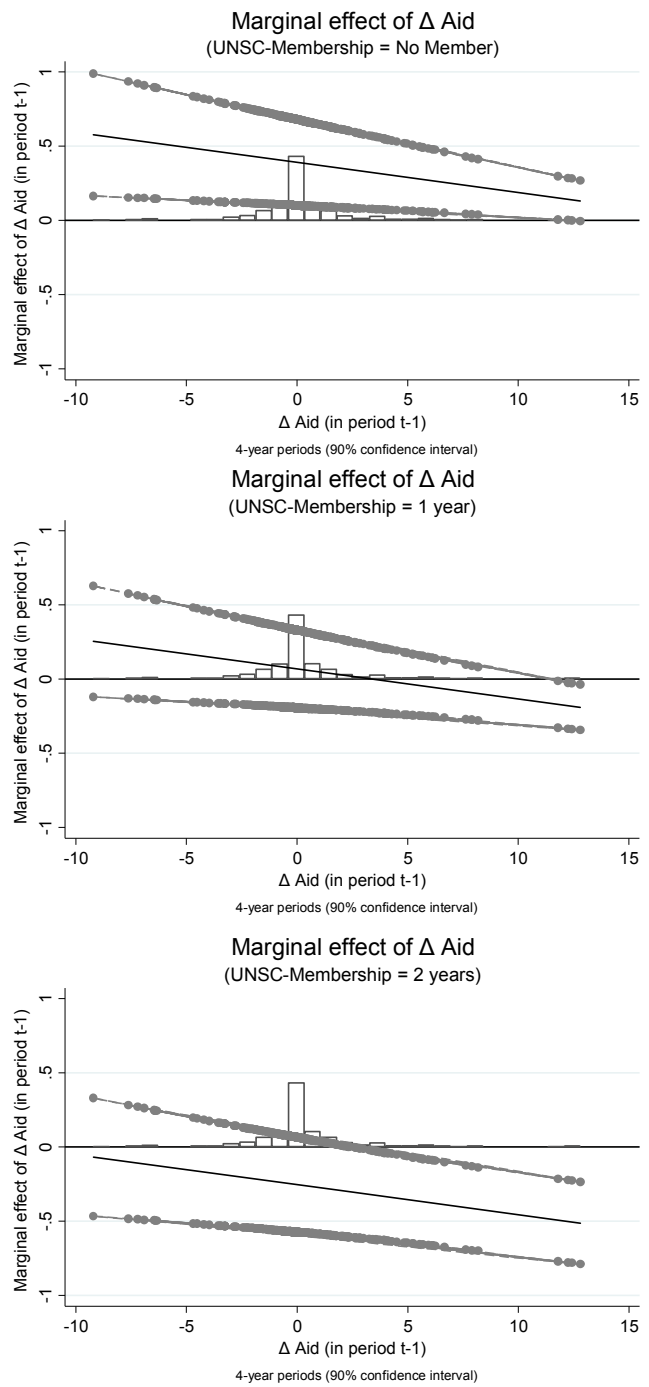
Figure 5 shows the marginal effects for the model of column 2 and the corresponding 90%-confidence intervals. The marginal effect of changes in aid on changes in growth depends on the magnitude of the change in aid and on membership on the UNSC. As the marginal effects depend on  $\Delta Aid$  and  $\Delta(Aid^2)$ , any quantitative interpretation obviously depends on whether the coefficients of these variables are estimated consistently, and thus on the identifying assumptions in Clemens et al. (2012). As can be seen, the effect declines for higher values of  $\Delta Aid$ , reflecting diminishing returns to aid.<sup>24</sup> The aid-growth relationship is positive for countries that have not served on the UNSC when aid has been committed,<sup>25</sup> while being largely insignificant for countries that have served one year, and significantly negative for those who served two years. For a country receiving the median amount of aid (1.59 percent of GDP) the estimated effect of this aid on growth is 0.72 when the country has not served on the UNSC, but -0.21 when the country has served one year on the UNSC, and -0.30 when it has served two years. The negative consequences of the donors' political motivations are thus not only statistically but also economically significant.

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24. The marginal effect of a change in aid is linear in the lagged difference and in the twice-lagged level of aid (see appendix S5).

25. This holds unless the change in aid exceeds 10 percent of GDP.

FIGURE 5. Marginal Effect of Changes in Aid Disbursements on Changes in Economic Growth, 1974-2009



**Notes:** Marginal effect of changes in aid disbursements on changes in economic growth conditional on varying temporary UNSC membership and the control variables (based on Table 1, column 2). The histogram shows the distribution of  $\Delta \text{Aid}$  in the regression sample: The upper and lower lines show the 90% confidence interval with dots representing individual observations. The significant interaction term in the regression shows that these marginal effects are significantly different. The derivation of the marginal effects can be found in supplemental appendix S6.

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

Columns 3 and 4 of table 1 reproduce the regressions focusing on Africa only. African nations follow the strictest norm of rotation on the UNSC among all regional election caucuses, making the exogeneity of UNSC membership particularly hard to challenge (Dreher et al. 2014b). The coefficient on the interaction term is negative and significant at the one-percent level independent of whether we exclude aid squared (in column 3) or include it (in column 4). We also tested whether the effect of UNSC membership on the effectiveness of aid is different for Africa, compared to other regions of the world. We find this not to be the case, at conventional levels of significance (p-value: 0.69).<sup>26</sup>

The results so far are in line with our proposed timeline. However, this does not preclude the potential importance of other sequences between membership on the UNSC and aid disbursements. Thus, table 2 reports results where we replicate the regressions of column 2 in table 1 using alternative timelines to examine whether and to what extent other possible sequences are supported by the data. We test whether the effectiveness of aid disbursed in periods (t), (t-1), and (t-2) is affected by UNSC membership in periods (t+1), (t), (t-1), and (t-2). For example, if aid disbursed to UNSC members would prove to be less effective in the period of membership (rather than one period later), an explanation could be that contemporaneous membership affects compliance with conditionality and thereby makes the aid less effective.

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26. Figure S3.2 in appendix S3 shows the marginal effects. To the extent that the effects of UNSC membership on aid effectiveness are homogenous across regions this indicates that selection on unobservables in the other regions is of no significant amount.

TABLE 2. Politically Motivated Aid and Growth, Different Timelines

(1)		(2)		(3)	
Interaction	Coefficient/ Std. err.	Interaction	Coefficient/ Std. err.	Interaction	Coefficient/ Std. err.
$\Delta\text{Aid}(t)*\text{UNSC}(t+1)$	-0.360 [0.694]	$\Delta\text{Aid}(t-1)*\text{UNSC}(t+1)$	-0.215 [0.480]	$\Delta\text{Aid}(t-2)*\text{UNSC}(t+1)$	0.575 [0.741]
$\Delta\text{Aid}(t)*\text{UNSC}(t)$	-0.377 [0.444]	$\Delta\text{Aid}(t-1)*\text{UNSC}(t)$	0.157 [0.915]	$\Delta\text{Aid}(t-2)*\text{UNSC}(t)$	0.104 [0.539]
$\Delta\text{Aid}(t)*\text{UNSC}(t-1)$	0.270 [0.470]	$\Delta\text{Aid}(t-1)*\text{UNSC}(t-1)$	0.003 [0.412]	$\Delta\text{Aid}(t-2)*\text{UNSC}(t-1)$	0.407 [0.421]
$\Delta\text{Aid}(t)*\text{UNSC}(t-2)$	0.152 [0.166]	$\Delta\text{Aid}(t-1)*\text{UNSC}(t-2)$	-1.289*** [0.379]	$\Delta\text{Aid}(t-2)*\text{UNSC}(t-2)$	-0.114 [0.384]

**Notes:** The dependent variable is growth of real GDP per capita. All regressions use averages over four years and include variables in first differences (except for the UNSC variable). They include the corresponding aid, aid squared, and UNSC terms and all other control variables (as in column 2 in table 1). The dependent variable covers the 1974–2009 period. Robust standard errors in brackets (clustered at the recipient country level); \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

While table 2 shows the coefficients and standard errors of the interaction terms only, note that the respective aid, aid squared and UNSC variables are included in each regression (as are the remaining control variables). As can be seen, the only significant coefficient is the one following our previously proposed and theoretically most likely timeline ( $Aid_{t-1} * UNSC_{t-2}$ ) that we show here for comparison. The regressions thus support our proposed timeline, and our considerations behind it. The table shows that this also holds when we focus on future UNSC membership, which we included here as a placebo test.

We further test the robustness of our results in a number of ways. First, we replace the share of years a country has served on the UNSC with a binary indicator variable for a country's presence on the UNSC. Second, we first-difference the UNSC variable rather than including it in levels. Third, we lag all control variables by one period rather than including them contemporaneously. Fourth, we employ early-impact aid as defined in Clemens et al. (2012) instead of all aid. Fifth, in light of the identifying assumptions discussed above, we include a number of additional variables (as changes between (t-2) and (t-1)) which could potentially induce omitted variables bias. Most importantly, we control for changes in the institutional environment by including the International Country Risk Guide's (ICRG) variables measuring Bureaucracy Quality, Corruption, Democratic Accountability, Ethnic Tensions, External Conflict, Government Stability, Internal Conflict, Investment Profile, Law & Order, Military in Politics, Political Risk Rating, and Religious Tensions. One at the time, we also include imports of goods and services (as a share of GDP), trade (as a share of GDP), Foreign Direct Investment inflows (as a share of GDP), the recipient country's voting alignment with the United States in the UN

General Assembly, and debt service (as share of GNI). Controlling for these additional influences considerably reduces any remaining risk of omitted variable bias. As our final test for robustness, we employ Clemens et al.'s (2012) permutations of Rajan and Subramanian (2008) instead of those of Burnside and Dollar (2000).<sup>27</sup>

TABLE 3. Tests for Robustness

		Coefficient of interaction	Observations
(1)	UNSC dummy	-0.626***	393
(2)	UNSC in first-differences	-0.384**	393
(3)	Control variables lagged	-1.012**	359
(4)	Early impact aid	-1.470*	354
(5)	Including all ICRG institutional measures	-0.975**	214
(6)	Including Imports/GDP	-1.254***	378
(7)	Including Trade/GDP	-1.261***	378
(8)	Including FDI/GDP	-1.125***	317
(9)	Including voting with U.S. in UNGA	-1.260***	385
(10)	Including Debt/GNI	-1.397***	367
(11)	Rajan/Subramanian	-1.365**	351

**Notes:** The dependent variable is growth of real GDP per capita and covers the 1974–2009 period. All regressions use averages over four years, include variables in first differences (except for the UNSC variable, which is estimated in first

27. In a previous version of this paper we estimated all main models in this framework and also show regressions using those of Bueno de Mesquita and Smith (2010). See Dreher et al. (2014a) for details.



differences in row 2 only) and add additional controls as indicated. All regressions include the corresponding aid, aid squared, and UNSC terms and, except for row 11, the same control variables as column 2 in table 1. Row 1 includes a binary indicator for temporary UNSC members instead of the share of years, while row 2 includes the share of UNSC membership in first differences rather than in levels. Row 3 lags all control variables by one period. Row 4 substitutes (net) Aid with (gross) “Early impact” aid as defined in Clemens et al. (2012) and, following their models, also includes repayments/GDP and (repayments/GDP) squared. We interact the linear “Early impact” and the repayment term with the UNSC variable. Row 5 includes the International Country Risk Guide’s (ICRG) variables (Bureaucracy Quality, Corruption, Democratic Accountability, Ethnic Tensions, External Conflict, Government Stability, Internal Conflict, Investment Profile, Law & Order, Military in Politics, Political Risk Rating, and Religious Tensions), all of which are available since 1984 only. Row 6 includes the (lagged) first difference of Imports of goods and services (as a share of GDP), row 7 adds Trade (as a share of GDP), row 8 Net Foreign Direct Investments inflows (as a share of GDP), row 9 adds the recipient country’s voting alignment with the United States in the UN General Assembly, and rows 10 includes total debt service (as a share of GNI). Row 11 focuses on Clemens et al.’s (2012) permutations of Rajan and Subramanian (2008). Their control variables are Aid Squared, Initial GDP/capita, Initial Policy, (log) Initial Life Expectancy, Institutional Quality, (log) Inflation, Initial M2/GDP, Budget Balance/GDP, Revolutions, and period dummies; all data are averaged over five-year-periods. Variations in sample size arise from incomplete information on the additional variable(s) included. For each of the above tests for robustness, supplemental appendix S3 shows full results for the aid and UNSC variables and their interaction. Robust standard errors (clustered at the recipient country level): \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources

The results are shown in table 3. They show that our main result is unaffected by all of these additions. The robustness of our results to the inclusion of a large number of variables increases our confidence that the main specification above does not violate the identifying assumptions, so that the estimates above are consistent.

Finally, we turn to explanations for our results. As we have discussed in Section 2, the previous literature identified a number of transmission channels for individual donors. Dreher et al. (2013) show that political motives reduce the quality of World Bank projects. Also for the World Bank, Kilby (2015) reports that political allies are allowed to start projects with inferior preparation. Stone (2008) finds that political favoritism undermines the credibility of IMF conditionality.

In order to test these transmission channels in our broad sample of donors, we would require data on aid conditionality and compliance with these conditions, project success, and time and resources invested in project preparation. These data do not exist for a broad sample of donors. Data exist, however, on different aid modalities and the sectoral composition of aid across recipient countries that are on the UNSC and those that are not. Previous research argues that the effectiveness of aid depends on the sector the aid is given to and the modalities through which it is delivered (Bjørnskov 2013). To the extent that UNSC membership affects composition and modalities,<sup>28</sup> the effectiveness of aid would change.

Table S6.1 in appendix S6 reports the amount of aid committed to individual sectors while countries have been temporary members of the UNSC compared to other times (in constant million 2011 US\$), for the 1973–2011 period. There are substantial differences between those countries on the UNSC and the rest. When we perform a simple t-test for equality of a certain category's share in total aid committed to UNSC members and nonmembers we find that the share increases significantly in 7 of the 26 sectors, and decreases in one sector. For example, UNSC members receive larger general budget support (+46%), more aid for other social infrastructure (+105%), more food aid (+59%), but less emergency aid (–39%). According to Nunn and Qian (2013), US food aid increases the risk of civil conflict. Bjørnskov (2013) shows that a category of aid that includes emergency aid increases growth. Both increases in food aid and reductions in emergency aid are thus likely to reduce the effectiveness of aid.

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28. Bayer et al. (2014) provide initial evidence. Their results show that countries prefer to work with UN agencies rather than the World Bank in implementing projects under the Global Environment Facility while being on the UNSC.

Strong differences also arise when we focus on the aid modality (as we show in table S6.2 in appendix S6). The results indicate increases in all types of aid for temporary members of the UNSC. In particular, budget aid increases by 192% during UNSC membership, while the increase in project aid is 95%. Loans increase by 137% and grants by 32%. The increases of these types of aid in a recipient's overall aid are all statistically significant at the five-percent level. Note that budget support is the type of aid that offers most flexibility to the recipient government and is thus particularly attractive to use for political reasons. To the extent that these different types of aid affect economic growth differently, the different composition of aid could also explain the effect that we identified.

#### IV. CONCLUSIONS

In this paper we addressed the question of whether a recipient country's short-term geopolitical importance reduces the effectiveness of the development aid it receives. We made use of a straightforward proxy for the geopolitical importance of a country. Specifically, we exploited the quasi-random variation in aid disbursements resulting from the recipient being of extraordinary geopolitical importance during its temporary membership on the UNSC. The previous literature has shown that temporary members of the UNSC receive substantial increases in aid (Kuziemko and Werker 2006; Dreher et al. 2009a, 2009b). To the extent that political motives for the allocation of aid negatively affect its consequences, the aid a country receives while serving on the UNSC should be less effective on average. The literature also shows that the time spent to prepare aid projects, the number of aid conditions as well as punishment of non-compliance with such

conditions differ for politically important aid recipients. Overall, we therefore expect aid given to countries of short-term political importance to be less effective in promoting growth than aid given at other times.

Rather than suggesting our own econometric model, we augment Clemens et al.'s (2012) permutations of Burnside and Dollar (2000) with our exogenous measure of politically motivated aid. Our results show that aid committed while a recipient is a member of the UNSC is less effective in increasing economic growth. This holds when we restrict our sample to African countries, which follow the strictest norm of rotation for UNSC membership.

While we did not aim to test whether aid is effective, but rather, whether aid effectiveness is reduced due to the short-term political importance of recipients, our findings have direct implications for the existing and future aid effectiveness debate. To the extent the reader accepts the regressions presented in Clemens et al. (2012) as a causal test for the effectiveness of aid, our results imply that overall aid increases growth, while aid given to countries at the time they are of geopolitical importance is insignificant or harmful to growth. In any case, aid to important countries is less effective than aid given at other times. Political motives channel more aid to temporary UNSC members whose subsequent growth rates might increase to the extent that the marginal effect of aid remains positive. This increase could however come at the cost of reduced aid and larger losses in growth elsewhere, inducing UNSC-related cycles in growth.

An important implication of our results relates to the identification strategy in the previous aid effectiveness literature, much of which tries to identify the causal effects of overall aid by instrumenting for aid using political variables. Our results show that geopolitical variables are of limited use as instruments for overall aid when "political aid" is different. More specifically,

our results suggest that the estimated effects of politically motivated aid—often reported as the effect of all aid in previous studies using such instruments—represent the lower bound of the true effect of all aid.

In terms of increasing the effectiveness of aid, there are arguably two possibilities. First, the giving of foreign aid could be separated from political motives, so that it truly becomes “development aid.” Given the incentives of donors to use aid to achieve their geopolitical goals this is unlikely to happen. Second, researchers should identify the exact channels through which geopolitical motives reduce the effectiveness of aid. The choice of a suitable remedy would depend upon which of the channels outlined above is responsible for the reduced effectiveness of aid. We leave such analysis for future research.

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## **Supplemental Appendix**

**Appendix S1:** Definition and sources

**Appendix S2:** Descriptive statistics

**Appendix S3:** Tests for robustness

**Appendix S4:** Assumptions for consistent estimate of interaction term

**Appendix S5:** Marginal effect of a change in aid

**Appendix S6:** Transmission channels

## Appendix S1: Definitions and sources

Variable	Definition	Original Source
UNSC Membership	Share of years a country has served as a temporary member on the UNSC in a given period.	Dreher et al. (2009b)
Democracy	Dummy that is 1 if the country is a democracy during at least half the period under consideration.	Cheibub et al. (2010)
Dummy for Africa	Dummy that is 1 if the recipient is an African country.	World Bank (2012)
GDP p.c. growth	Average over annual growth rates of real GDP p.c. based on constant local currency.	World Bank (2007)*
Net ODA	Net total Official Development Assistance in % of GDP.	DAC (2007), Table DAC2a*, World Bank (2016)**
Log Initial GDP/capita	Logarithm of initial GDP p.c. in international prices.	Penn World Tables 6.2*
Budget Balance	Overall Budget Balance, including grants. Measured as cash surplus/deficit in % of GDP.	World Bank (2007, 2016**), IMF (2005)*
Inflation	Natural log of (1+ Consumer Price Inflation).	World Bank (2005, 2007), IMF (2005)*
M2 (% of GDP)	Money and Quasi-Money (M2) in % of GDP.	World Bank (2007)*
Assassinations	Average number of assassinations.	Banks (2012, 2007)*
Assassinations x Ethnolinguistic Fractionalization	Interaction between Assassinations and Ethnolinguistic Fractionalization.	Banks (2012, 2007), Easterly and Levine (1997), Roeder (2001)*
Policy	Good Policy Index based on Budget Balance/GDP, Inflation and Trade Openness (cf. Burnside and Dollar 2000).	Clemens et al. (2012)
Openness	Wacziarg-Welch (2008) extension of the Sachs and Warner (1995) Openness Index.	Wacziarg and Welch (2008), updated by Clemens et al. (2012)*
UNGA alignment U.S.	Voting alignment of recipient country with the U.S. on all votes in the United Nations General Assembly.	Strezhnev and Voeten (2012)

ICRG Institutions	Government Stability, Socioeconomic Conditions, Investment Profile, Internal Conflict, External Conflict, Corruption, Military in Politics, Religion in Politics, Law and Order, Ethnic Tensions, Democratic Accountability, Bureaucracy Quality.	PRS group ICRG
US Bilateral Development Aid	Official Development Aid Disbursements from the US in % of GDP.	DAC (2012), Table DAC2a ODA Disbursements, February 2012
ODA Commitments/GDP	ODA commitments, total, in % of GDP.	DAC (2007), Table DAC3a
Total debt service	Total debt service, in % of gross national income.	World Bank (2012)
Short-term debt	Short-term debt, in % of total external debt.	World Bank (2012)
Imports/GDP	Imports of goods and services as share of GDP.	World Bank (2012)
Trade/GDP	Trade as share of GDP.	World Bank (2012)
FDI/GDP	Foreign Direct Investments net inflows as share of GDP.	World Bank (2012)

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**Notes:** DAC is the OECD's Development Assistance Committee; ICRG is the International Country Risk Guide.

\* Our source is Clemens et al. (2012), <http://www.cgdev.org/doc/Working%20Papers/CRBB-Replication-Files.zip>, accessed 06.06.2012. Data for the 2006-2009 period are from Minasyan (2016).

More details are provided in "Technical Appendix to Counting chickens when they hatch: Timing and the effects of aid on growth," [http://www.cgdev.org/doc/Working%20Papers/counting\\_chickens\\_technical\\_appendix.pdf](http://www.cgdev.org/doc/Working%20Papers/counting_chickens_technical_appendix.pdf), last accessed 12.05.2016.

\*\* When updating the Clemens et al. data until 2009, we used data from the World Bank accessed via the "wbopendata" module, which cover more countries than Minasyan (2016). Due to data availability for the 2005-2009 period, the budget balance is defined as revenue (including grants) minus expense and minus net acquisition of nonfinancial assets.

## Appendix S2: Descriptive statistics

Variables	Count	Mean	Standard Deviation	Min.	Max.
Net ODA/GDP	393	4.41	6.16	-0.13	42.52
UNSC membership, share	393	0.08	0.17	0.00	0.50
UNSC membership dummy	393	0.21	0.41	0.00	1.00
GDP p.c. growth	393	1.34	3.28	-12.96	17.05
Log Initial GDP/capita	393	8.04	0.80	6.14	10.06
Budget Balance	393	-0.16	1.12	-7.25	6.70
Inflation	229	0.28	0.45	-0.01	3.22
M2/GDP	393	4.50	16.01	0.02	135.78
Institutional Quality	393	4.34	1.48	1.58	8.14
Assassinations	393	0.46	1.30	0.00	11.50
Policy	393	1.60	1.32	-3.86	3.91
Openness	229	0.29	0.43	0.00	1.00
ODA Commitments/GDP	389	0.06	0.08	0.00	0.44
US Aid/GDP	393	0.68	1.22	0.00	12.48
Democracy (t-2)	386	0.41	0.49	0.00	1.00
Autocracy (t-2)	386	0.59	0.49	0.00	1.00
Imports/GDP	384	30.97	14.62	0.00	92.96
Trade/GDP	384	58.87	27.67	11.44	203.36
FDI/GDP	381	1.59	2.63	-28.62	15.59
Total debt service	367	67.15	67.73	4.22	939.35
Short-term debt	379	13.80	8.73	0.73	54.97
Average Voting Alignment with U.S.	389	33.62	10.69	14.20	64.55
Bureaucracy Quality	311	1.74	0.93	0.00	3.50
Corruption	311	2.60	0.93	0.00	5.00
Democratic Accountability	311	3.38	1.23	0.00	6.00
Law & Order	311	2.93	1.13	0.67	6.00
Political Risk Rating	310	57.11	11.36	26.96	80.83
Ethnic Tensions	311	3.72	1.49	0.33	6.00
Religious Tensions	311	4.32	1.37	0.00	6.00
Military in Politics	311	3.05	1.55	0.00	6.00
Internal Conflict	311	7.78	2.42	0.31	12.00
External Conflict	311	9.33	2.15	2.17	12.00
Government Stability	311	6.97	2.09	1.85	11.00
Investment Profile	311	6.39	1.91	1.17	11.50

## Appendix S3: Tests for robustness

**Table S3.1:** Sensitivity to different coding of the UNSC variable and additional covariates

	(1) UNSC dummy	(2) UNSC differenced	(3) Lagged explanatory variables
$\Delta$ Aid (t-1)	0.484** [0.211]	0.404** [0.195]	0.379** [0.153]
$\Delta$ Aid squared (t-1)	-0.010** [0.004]	-0.009** [0.004]	-0.006* [0.003]
Dummy UNSC (t-2)	-0.511 [0.333]		
Dummy UNSC (t-2)* $\Delta$ Aid (t-1)	-0.626*** [0.165]		
$\Delta$ UNSC (t-2)		0.039 [0.844]	
$\Delta$ UNSC (t-2)* $\Delta$ Aid (t-1)		-0.384** [0.182]	
UNSC (t-2)			-1.814* [1.003]
UNSC (t-2)* $\Delta$ Aid (t-1)			-1.012** [0.402]
Adj. R-Squared	0.19	0.19	0.22
Number of Countries	54	54	54
Number of Observations	393	393	359

**Notes:** The dependent variable is growth of real GDP per capita. All regressions use averages over four years and include (first differences of) Initial GDP/capita, Assassinations, Ethnic Fractionalization\*Assassinations, M2/GDP (lagged), Policy, and period dummies. The dependent variable covers the 1974-2009 period. Column 1 includes a dummy for temporary UNSC membership instead of the share of years on the Council. Column 2 uses the share of UNSC membership in first differences. In column 3, we lag all explanatory variables by one period (from (t) to (t-1)). Column 4 includes the International Country Risk Guide (ICRG) variables Bureaucracy Quality, Corruption, Democratic Accountability, Ethnic Tensions, External Conflict, Government Stability, Internal Conflict, Investment Profile, Law & Order, Military in Politics, Political Risk Rating, and Religious Tensions (available from 1984). Column 4 includes the recipient country's voting alignment with the United States in the UN General Assembly. The specification is similar to Table 1, column 2. Standard errors in brackets (clustered at the recipient country level). \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

**Table S3.2:** Sensitivity to using early impact aid

$\Delta$ Early Impact Aid (t-1)	0.576** [0.231]
$\Delta$ Early Impact Aid squared (t-1)	-0.032** [0.014]
UNSC (t-2)	-1.635 [0.980]
UNSC (t-2)* $\Delta$ Early Impact Aid (t-1)	-1.470* [0.750]
Adj. R-Squared	0.197
Number of Countries	54
Number of Observations	354

**Notes:** The dependent variable is growth of real GDP per capita. All regressions use averages over four years and include (first differences of) Initial GDP/capita, Assassinations, Ethnic Fractionalization\*Assassinations, M2/GDP (lagged), Policy, and period dummies. The dependent variable covers the 1974-2005 period. 'Early impact' aid is defined following Clemens et al. (2012) and the specification also includes repayments/GDP its square as in their specifications, since 'early impact' ODA is a gross flow while aggregate aid is a net flow. Consistent with our modification of other regressions, we interact the linear repayment term with our UNSC variable. Otherwise, the specification is similar to Table 1, column 2. Standard errors in brackets (clustered at the recipient country level).

\* p<0.10, \*\* p<0.05.

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

**Table S3.3:** Sensitivity to additional covariates

	(1)	(2)	(3)	(4)	(5)	(6)
	ICRG	Imports /GDP	Trade/GDP	FDI/GDP	UNGA	Debt/GNI
$\Delta$ Aid (t-1)	0.269*	0.464**	0.461**	0.325**	0.502**	0.453*
	[0.135]	[0.209]	[0.207]	[0.126]	[0.212]	[0.245]
$\Delta$ Aid squared (t-1)	-0.006**	-0.009**	-0.010**	-0.007***	-0.011**	-0.010**
	[0.002]	[0.004]	[0.004]	[0.002]	[0.004]	[0.005]
UNSC (t-2)	-2.251**	-1.573*	-1.553*	-1.640	-1.376	-1.347
	[1.077]	[0.896]	[0.889]	[1.020]	[0.840]	[0.865]
UNSC (t-2)* $\Delta$ Aid (t-1)	-0.975**	-1.254***	-1.261***	-1.125***	-1.260***	-1.397***
	[0.386]	[0.357]	[0.370]	[0.361]	[0.358]	[0.411]
Adj. R-Squared	0.28	0.19	0.18	0.23	0.19	0.18
Number of Countries	53	54	54	54	54	51
Number of Observations	214	378	378	317	385	367

**Notes:** The dependent variable is growth of real GDP per capita. All regressions use averages over four years, include variables in first differences (except for the UNSC variable) and include period dummies. Control variables are Initial GDP/capita, Assassinations, Ethnic Fractionalization\*Assassinations, M2/GDP (lagged), Policy, and period dummies. The dependent variable covers the 1974-2009 period. Column 1 adds imports of goods and services (as a share of GDP), column 2 adds Trade (as a share of GDP), column 3 adds net Foreign Direct Investments inflows (FDI, as a share of GDP), and column 4 adds debt service (as a share of GNI). The specification is similar to Table 1, column 2. Standard errors in brackets (clustered at the recipient country level).

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

**Table S3.4:** Results for democracies and autocracies

	(1)		(2)		(3)		(4)	
	Democracy (t-2)		Autocracy (t-2)		Democracy (t-1)		Autocracy (t-1)	
$\Delta$ Aid (t-1)	0.078	[0.089]	0.156	[0.125]	0.118	[0.074]	0.137	[0.141]
UNSC (t-2)	0.416	[0.823]	-2.677*	[1.412]	0.184	[0.784]	-2.157	[1.392]
UNSC (t-2)* $\Delta$ Aid (t-1)	-0.006	[0.306]	-1.273***	[0.335]	-0.452	[0.518]	-1.221***	[0.433]
Adj. R-Squared	0.256		0.149		0.238		0.162	
Number of Countries	32		46		36		45	
Number of Observations	157		236		180		213	
	(5)		(6)		(7)		(8)	
$\Delta$ Aid (t-1)	0.632***	[0.209]	0.406	[0.246]	0.596***	[0.142]	0.411	[0.290]
$\Delta$ Aid squared (t-1)	-0.013***	[0.004]	-0.008	[0.005]	-0.012***	[0.003]	-0.009	[0.006]
UNSC (t-2)	0.293	[0.807]	-2.645*	[1.430]	0.066	[0.769]	-2.167	[1.404]
UNSC (t-2)* $\Delta$ Aid (t-1)	-0.731*	[0.422]	-1.407***	[0.322]	-0.701**	[0.320]	-1.578**	[0.541]
Adj. R-Squared	0.288		0.158		0.274		0.171	
Number of Countries	32		46		36		45	
Number of Observations	157		236		180		213	

**Notes:** The dependent variable is growth of real GDP per capita. All regressions use averages over four years and include (first differences of) Initial GDP/capita, Assassinations, Ethnic Fractionalization\*Assassinations, M2/GDP (lagged), Policy, and period dummies. The dependent variable covers the 1974-2009 period. A regime is defined as democratic if it is classified as such in at least half a period by Cheibub et al. (2010). In columns 3 and 4 the regime type refers to the period of aid disbursement (t-1). Otherwise, the specification is similar to Table 1, column 2. Standard errors in brackets (clustered at the recipient country level).

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.



**Table S3.5:** Politically motivated aid commitments and aid disbursements, OLS

	(1)	(2)	(3)	(4)	(5)
Aid disbursements (t-1)	0.499** [0.236]		0.105 [0.091]		0.487** [0.226]
Aid disbursements squared (t-1)	-0.011** [0.005]				-0.011** [0.004]
Aid commitments (t-2)	-10.140** [4.244]	-9.299** [4.596]	-9.084** [4.494]	8.455 [11.931]	6.324 [12.221]
Aid commitments squared (t-2)				-41.872* [23.343]	-40.826* [23.117]
UNSC (t-2)	-1.280 [0.860]	-1.645* [0.888]	-1.378 [0.825]	-1.516* [0.897]	-1.234 [0.825]
UNSC (t-2)*Aid disbursements (t-1)	-1.306*** [0.400]		-0.955** [0.438]		-1.343*** [0.380]
UNSC (t-2)*Aid commitments (t-2)		10.66 [24.061]	10.039 [23.374]	5.527 [20.583]	6.573 [18.801]
Adj. R-Squared	0.195	0.164	0.171	0.171	0.201
Number of Observations	383	383	383	383	383

**Notes:** The dependent variable is growth of real GDP per capita. All regressions use averages over four years and include (first differences of) Initial GDP/capita, Assassinations, Ethnic Fractionalization\*Assassinations, M2/GDP (lagged), Policy, and period dummies. The dependent variable covers the 1974-2009 period. The table adds aid commitments (and their interaction with UNSC membership) to the regression from Table 1, column 2. Standard errors in brackets (clustered at the recipient country level).

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

**Table S3.6:** Politically motivated aid and growth, OLS, Rajan & Subramanian specification

	(1)	(2)
$\Delta$ Aid (t-1)	0.149* [0.085]	0.356** [0.148]
$\Delta$ Aid squared (t-1)		-0.007 [0.004]
UNSC (t-2)	-0.866 [1.420]	-0.947 [1.402]
UNSC (t-2)* $\Delta$ Aid (t-1)	-1.094* [0.590]	-1.365** [0.647]
Adj. R-Squared	0.30	0.31
Number of Countries	64	64
Number of Observations	351	351

**Notes:** The dependent variable is growth of real GDP per capita. The regressions use averages over five years and include (first differences of) Initial GDP/capita, Initial Policy, (log) Initial Life Expectancy, Institutional Quality, (log) Inflation, Initial M2/GDP, Budget Balance/GDP, Revolutions, period dummies. The dependent variable covers the 1966-2005 period (using the full extended sample provided by Clemens et al. 2012, Table 9). Standard errors in brackets (clustered at the recipient country level).

\* p<0.10, \*\* p<0.05.

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

**Table S3.7:** Sensitivity to the addition of a triple interaction between aid squared and the share of UNSC membership

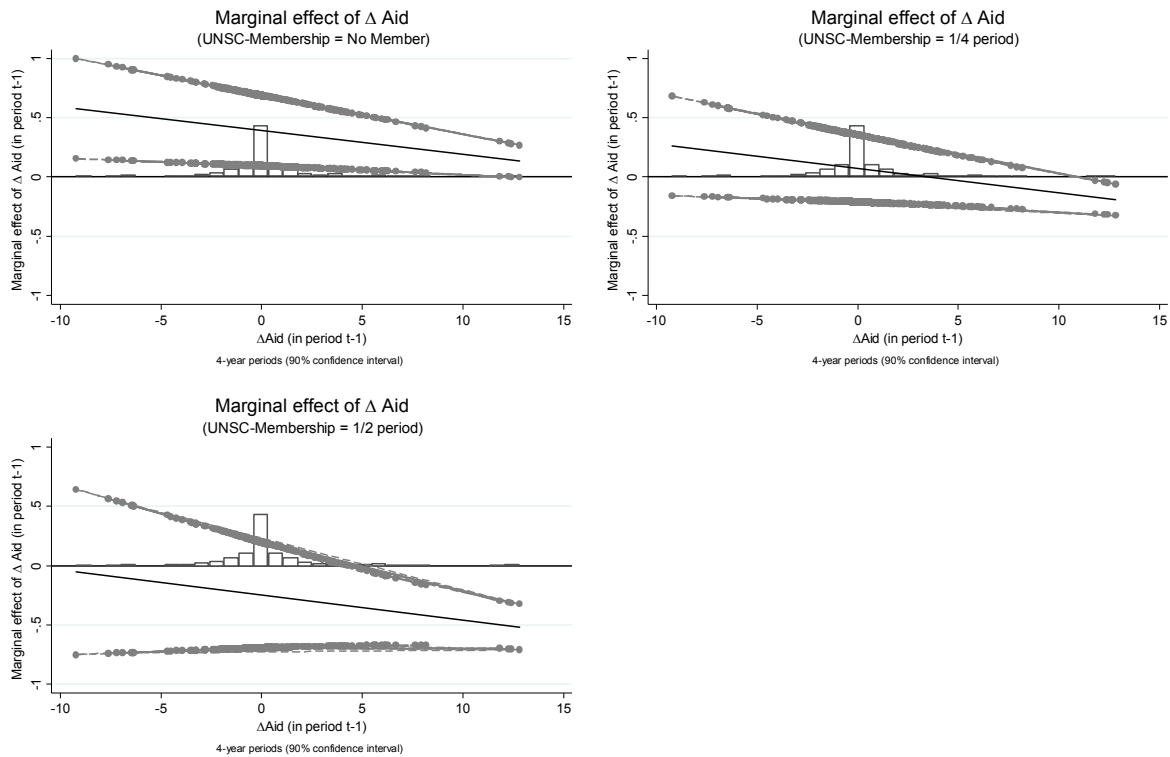
$\Delta$ Aid (t-1)	0.476** [0.213]
$\Delta$ Aid squared (t-1)	-0.010** [0.004]
UNSC (t-2)	-1.228 [0.835]
UNSC (t-2)* $\Delta$ Aid(t-1)	-1.302 [0.799]
UNSC (t-2)* $\Delta$ Aid squared (t-1)	-0.000 [0.021]
Adj. R-Squared	0.184
Number of Countries	54
Number of Observations	393

**Notes:** The dependent variable is growth of real GDP per capita. All regressions use averages over four years and include (first differences of) Initial GDP/capita, Assassinations, Ethnic Fractionalization\*Assassinations, M2/GDP (lagged), Policy, and period dummies. The dependent variable covers the 1974-2009 period. Standard errors in brackets (clustered at the recipient country level).

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

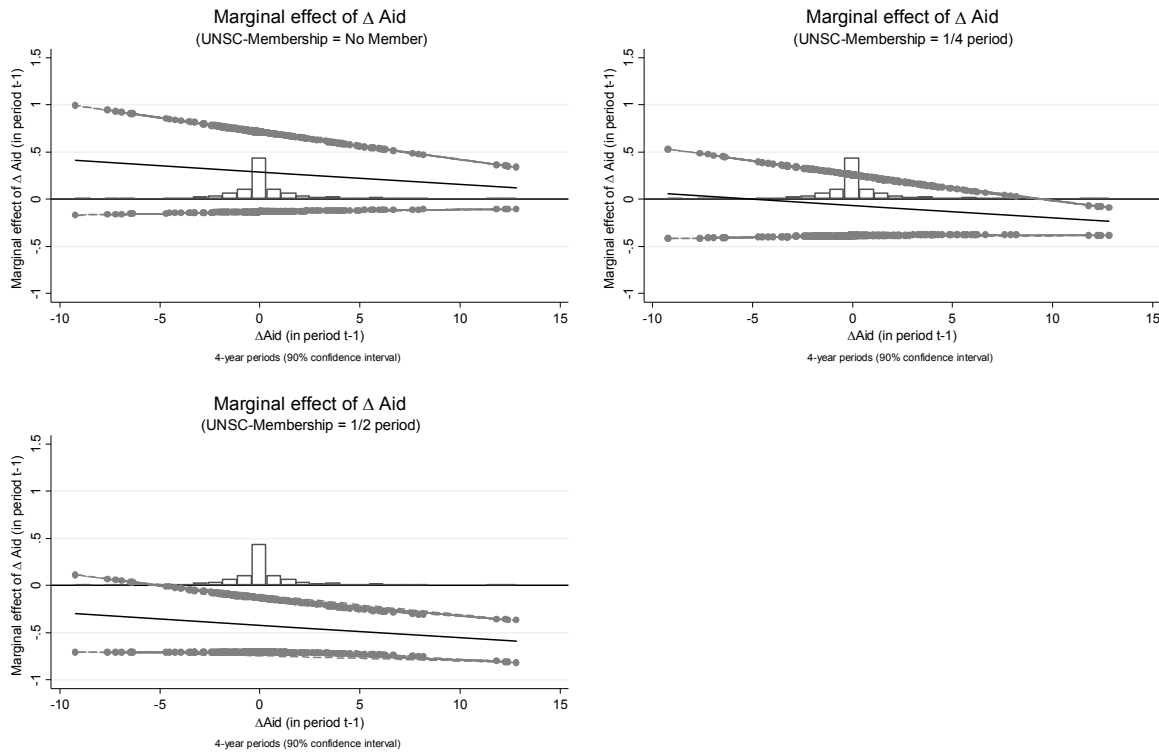
**Figure S3.1:** Sensitivity of Marginal Effects to the Addition of a Triple Interaction Between Aid Squared and the Share of Years of UNSC Membership, Burnside and Dollar specification 1974-2009



**Notes:** Marginal effect of changes in aid disbursements on changes in economic growth conditional on varying temporary UNSC membership. The marginal effect is based on a regression that includes aid, aid squared, the interaction between aid and UNSC membership and between aid squared and UNSC membership. The histogram shows the distribution of  $\Delta$ Aid in the regression sample: The upper and lower lines show the 90% confidence interval with dots representing individual observations.

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

**Figure S3.2:** Marginal Effects for the Subsample of African Countries Resulting From a Nested Model, Burnside and Dollar specification 1974-2009



**Notes:** Marginal effect of changes in aid disbursements on changes in economic growth in African countries conditional on varying temporary UNSC membership. The marginal effect is based on a nested model that includes the interaction between the Africa indicator and all explanatory variables. The point estimate for  $[\text{UNSC}(t-2) * \Delta \text{Aid}(t-1) * \text{Africa}]$  is negative but insignificant, suggesting that the growth effect of politically motivated aid is not significantly different in Africa. The histogram shows the distribution of  $\Delta \text{Aid}$  in the regression sample: The upper and lower lines show the 90% confidence interval with dots representing individual observations.

**Source:** Own calculations; see supplemental appendix S1 for variable definitions and sources.

## Appendix S.4: Assumptions for consistent estimation of the interaction term

In the following, we sketch the two alternative sets of assumptions that assure the consistent estimation of the interaction term. The first set of assumptions is based on Bun and Harrison (2014) and Nizalova and Murtazashvili (2016). For consistency of presentation, we keep the notation as in our paper but refer directly to the relevant assumptions in Bun and Harrison (2014). For clarity of presentation, we omit exogenous control variables, period-fixed effects and aid squared, all of which do not affect the result about the consistency of the interaction term. As Bun and Harrison (2014: 4) note, the addition of the other control variables “does not change the theoretical results. The analysis below holds exactly when we replace  $y$ ,  $w$  and  $x$  [their notation] by the residuals of their projection on these additional exogenous regressors.”

### Notation

The simplified version of our main model is

$$\Delta Growth_{i,t} = \alpha + \beta \Delta Aid_{i,t-1} + \delta UNSC_{i,t-2} + \zeta UNSC_{i,t-2} * \Delta Aid_{i,t-1} + \Delta \varepsilon_{it}$$

where  $i$  refers to the countries and  $t$  to the 4-year periods.  $\Delta Aid_{i,t-1}$  is the endogenous variable, referred to as  $x_i$  in the notation of Bun and Harrison (2014).

The error can be written as:

$$\Delta \varepsilon_{it} = \lambda \Delta Z_{i,t-k} + \Delta v_{i,t} \quad ,$$

with  $Z_{i,t-k}$  being a potentially time- and country-varying unobserved effect,  $k \in \{0, 1, 2, 3, \dots\}$ , and  $(\Delta Aid_{i,2}, \dots, \Delta Aid_{i,T-1}, UNSC_{i,1}, \dots, UNSC_{i,T-2}, \Delta \varepsilon_{i,3}, \dots, \Delta \varepsilon_{i,T})$  being i.i.d.

### Assumption set 1

#### Assumption 1.1

$$E[\Delta \varepsilon_{it} | UNSC_{i,t-2}] = 0,$$

i.e., UNSC membership is exogenous (cf., Bun and Harrison 2014: 4). In their notation, the exogenous regressor is  $\omega_{i,t}$ .

#### Assumption 1.2

$$E[\Delta Aid_{i,t-1} \Delta \varepsilon_{it} | UNSC_{i,t-2}] = E[\Delta Aid_{i,t-1} \Delta \varepsilon_{it}],$$

i.e., the “degree of endogeneity” (direction and extent of omitted variable bias) of the endogenous variable does not depend on the exogenous variable (cf., Bun and Harrison 2014: 5, Eq. 2.5). Then we have:

$$Cov(UNSC_{i,t-2}\Delta Aid_{i,t-1}, \Delta \varepsilon_{it}) = E[UNSC_{i,t-2}] \cdot E[\Delta Aid_{i,t-1} \Delta \varepsilon_{it}] = 0,$$

assuming that  $E[UNSC_{i,t-2}] = 0$  (cf., Bun and Harrison 2014: 5, Eq. 2.6).<sup>29</sup> Assumption 1.2 is a relatively weak condition, present in various statistical data generating processes. In our setting, the assumption is plausible because temporary UNSC membership is quasi-exogenously assigned.<sup>30</sup> Moreover, the assumption is also reasonable in the case of relevant omitted variables as discussed by Bun and Harrison (2014: 6) because the endogeneity in our case is not caused by simultaneity.

The OLS estimator of the coefficient of the interaction is consistent under additional reasonable conditions. Bun and Harrison (2014) derive the following term as part of the expression for the inconsistency of the interaction term:<sup>31</sup>

$$E[\Delta Aid_{i,t-1} UNSC_{i,t-2}]E[\Delta Aid_{i,t-1} UNSC_{i,t-2}^2] - E[UNSC_{i,t-2}^2]E[\Delta Aid_{i,t-1}^2 UNSC_{i,t-2}]$$

This term equals zero under typical conditions regarding higher-order dependencies between the endogenous and the exogenous variables of interest.<sup>32</sup> So in many empirical applications, the term leading to inconsistent estimation of the interaction term is zero. For example, it holds in all cases when the relation between  $\Delta Aid_{i,t-1}$  and  $UNSC_{i,t-2}$  follows a linear form (c.f., Bun and Harrison 2014: 7-8). Note that the coefficient  $\delta$  for UNSC membership, assumed to be exogenous, is also consistently estimated under Assumptions 1.1 and 1.2.

*(Continued on the next page)*

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<sup>29</sup> The assumption of a mean of zero comes without loss of generality and is made to simplify the analysis. Because we always include a constant in the regression, all results also hold with rescaling of these variables (Kiviet and Niemczyk, 2012).

<sup>30</sup> See discussion about randomly assigned treatment in Bun and Harrison (2014:5, last paragraph).

<sup>31</sup> See Proposition 1 in Bun and Harrison (2014: 7).

<sup>32</sup> As Bun and Harrison (2014: 7) note “multivariate elliptical distributions are sufficient, but not necessary, for these higher-order dependencies to vanish.”

While we are convinced that UNSC membership positions are quasi-randomly allocated among UN members and exogenous to growth two 4-year periods after UNSC membership, the following assumptions would assure the consistency of our interaction term even if UNSC membership would not be exogenous.<sup>33</sup> Note that this second set of assumptions is weaker than the first set of assumption because they do not imply consistent estimation of the UNSC coefficient.

**Assumption set 2**

If Assumption 1.1 is violated, i.e.,  $UNSC_{i,t-2}$  is not exogenous to growth

$$E[\Delta\varepsilon_{it}|UNSC_{i,t-2}] \neq 0$$

we need to assume that:

**Assumption 2:**

We need that  $E[\Delta Aid_{i,t-1} UNSC_{i,t-2} \Delta\varepsilon_{it}] = 0$  to consistently estimate the coefficient of the interaction term. This condition is fulfilled if the “degree of endogeneity” of one endogenous variable of interest is independent of the other endogenous variable of interest. Note that the endogeneity of the two variables might therefore not be caused by the same omitted variable. Formally,

**Assumption 2.1 (equivalent to Assumption 1.2):**

$$E[\Delta Aid_{i,t-1} \Delta\varepsilon_{it} | UNSC_{i,t-2}] = E[\Delta Aid_{i,t-1} \Delta\varepsilon_{it}],$$

i.e., the correlation of aid with the error term is independent of UNSC membership.

**Assumption 2.2**

$$E[UNSC_{i,t-2} \Delta\varepsilon_{it} | \Delta Aid_{i,t-1}] = E[UNSC_{i,t-2} \Delta\varepsilon_{it}],$$

The correlation of UNSC with the error term is independent of changes in aid flows.

*Framed in terms of the structure of potential omitted variables*

$$E[\Delta Aid_{i,t-1} \Delta Z_{i,t-k} | UNSC_{i,t-2}] = E[\Delta Aid_{i,t-1} \Delta Z_{i,t-k}],$$

*i.e., the correlation between the omitted variable and the dependent variable is independent of UNSC membership (e.g., the effect of institutions on growth is not affected by past UNSC membership)*

*and*

$$E[UNSC_{i,t-2} \Delta Z_{i,t-k} | \Delta Aid_{i,t-1}] = E[UNSC_{i,t-2} \Delta Z_{i,t-k}],$$

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<sup>33</sup> This second set of assumptions is inspired by Bun and Harrison (2014), but is not explicitly derived there.



*i.e., the relationship between the omitted variable and the regressor does not depend on the level of aid.*

### **Additional Reference**

Kiviet, J.F. and J. Niemczyk. 2012. "The asymptotic and finite sample (un)conditional distributions of OLS and simple IV in simultaneous equations," *Journal of Computational Statistics and Data Analysis* 56, 3567-3586.

## Appendix S5: Marginal effect of a change in aid

$$[Growth_{i,t} - Growth_{i,t-1}] = \alpha + \beta[Aid_{i,t-1} - Aid_{i,t-2}] + \gamma[Aid_{i,t-1}^2 - Aid_{i,t-2}^2] + \delta UNSC_{i,t-2} + \zeta[Aid_{i,t-1} - Aid_{i,t-2}] * UNSC_{i,t-2} + [X_{i,t} - X_{i,t-1}] \eta + \mu_{i,t}$$

$$[Growth_{i,t} - Growth_{i,t-1}] = \alpha + \beta[Aid_{i,t-1} - Aid_{i,t-2}] + \gamma[Aid_{i,t-1} + Aid_{i,t-2}] * [Aid_{i,t-1} - Aid_{i,t-2}] + \delta UNSC_{i,t-2} + \zeta[Aid_{i,t-1} - Aid_{i,t-2}] * UNSC_{i,t-2} + [X_{i,t} - X_{i,t-1}] \eta + \mu_{i,t}$$

$$[Growth_{i,t} - Growth_{i,t-1}] = \alpha + \beta[Aid_{i,t-1} - Aid_{i,t-2}] + \gamma[Aid_{i,t-1} - Aid_{i,t-2} + Aid_{i,t-2} + Aid_{i,t-2}] * [Aid_{i,t-1} - Aid_{i,t-2}] + \delta UNSC_{i,t-2} + \zeta[Aid_{i,t-1} - Aid_{i,t-2}] * UNSC_{i,t-2} + [X_{i,t} - X_{i,t-1}] \eta + \mu_{i,t}$$

Replacing  $Aid_{i,t-1} - Aid_{i,t-2} = \Delta Aid_{i,t-1}$ :

$$[Growth_{i,t} - Growth_{i,t-1}] = \alpha + \beta[\Delta Aid_{i,t-1}] + \gamma[\Delta Aid_{i,t-1} + Aid_{i,t-2} + Aid_{i,t-2}] * [\Delta Aid_{i,t-1}] + \delta UNSC_{i,t-2} + \zeta[\Delta Aid_{i,t-1}] * UNSC_{i,t-2} + [X_{i,t} - X_{i,t-1}] \eta + \mu_{i,t}$$

$$\frac{\partial [Growth_{i,t} - Growth_{i,t-1}]}{\partial [\Delta Aid_{i,t-1}]} = \beta + \gamma * 2 * (Aid_{i,t-2} + \Delta Aid_{i,t-1}) + \zeta * \Delta Aid_{i,t-1} * UNSC_{i,t-2}$$

## Appendix S6: Transmission channels

**Table S6.1:** Sectoral allocation of total aid committed, 1973-2011, constant million 2011 US\$

Sector	Non-UNSC member (mean)	UNSC member (mean)	Increase in %	t-test (p-value)
Education	37.62	56.36	50%	0.00
Health	27.48	34.70	26%	0.09
Population	25.79	40.38	57%	0.01
Water and Sanitation	36.62	68.99	88%	0.00
Government /Civil Society	47.78	56.19	18%	0.43
Other Social Infrastructure	18.44	37.74	105%	0.00
Transport and Storage	62.16	93.57	51%	0.00
Communication	10.38	19.70	90%	0.00
Energy Generation and Supply	53.87	100.60	87%	0.00
Banking and Financial Services	13.30	16.93	27%	0.28
Business and other Services	10.14	11.15	10%	0.78
Agriculture and Fishing	53.73	138.60	158%	0.00
Industry/Mining	26.75	69.36	159%	0.00
Trade/Tourism	4.85	5.33	10%	0.77
Environment	14.48	37.49	159%	0.00
Other Multisector	32.96	45.04	37%	0.01
General Budget support	81.13	118.40	46%	0.09
Food Aid	29.10	46.36	59%	0.01
Other Commodity Assistance	33.78	64.37	91%	0.00
Debt	78.08	110.00	41%	0.46
Emergency Reponse	27.50	16.86	-39%	0.15
Reconstruction Relief	14.47	11.37	-21%	0.71
Disaster Prevention	3.26	1.95	-40%	0.57
Admin of Donors	1.73	2.12	23%	0.43
Refugees	3.33	1.92	-42%	0.33
Unspecified	7.03	12.79	82%	0.01

**Notes:** Differences in aid commitments by aid type for temporary UNSC and non-UNSC members. The t-value indicates significance of the difference between the shares of the respective aid type for UNSC and non-UNSC members.

Source: OECD DAC Creditor Reporting System (CRS) aid activities database.

**Table S6.2:** Allocation of total aid committed, 1973-2011, constant million 2011 US\$

Type of Aid	Non-UNSC member (mean)	UNSC member (mean)	Increase in %	t-test (p-value)
Budget Aid	69.71	203.60	192%	0.00
Project Aid	240.20	469.40	95%	0.00
Tied Aid	66.44	121.20	82%	0.00
Partially tied Aid	85.40	181	112%	0.00
Untied Aid	189.7	308.5	63%	0.00
Loans	229.60	545.10	137%	0.00
Grants	268.80	354.60	32%	0.03

Notes: Differences in aid commitments by aid type for UNSC members and non- members. The t-value indicates significance of the difference between the shares of the respective aid type for UNSC members and non-members.

Source: OECD DAC Creditor Reporting System (CRS) aid activities database.