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Trade as a Motivation in Aid Allocation as the Economy of Donor Countries Fluctuates

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Abstract

In this paper we examine whether foreign aid commitments to closer trading partners are less sensitive to economic fluctuations in the donor country. We argue that this is the case. If donors act in their own self-interest, they will prioritize aid to closer trading partners in economic difficult times, as a means to keep the exports up. We test this argument by using fixed effect regressions on panel data on output gap and bilateral aid, and trade for 28 donors and 154 recipients from 1992 to 2009. Our results are in line with our hypothesis. We note that the effect of prioritizing closer trading partners is more likely to emerge when donor countries are in economic crises. Our results hold up when adding control variables frequently used in the academic literature on aid allocation. Our findings contribute to the current literature on aid allocation in so much that it provides an explanation as to how short-term self-interest of donors can explain aid motivation. These findings may have implications for countries that are considered to be less attractive trading partners, as their aid volatility would increase more.

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1. Introduction

In 2011, for the first time in over a decade, OECD (2012) reported a decline in the monetary amount spent on foreign aid. It was followed by another decrease in 2012. The declines were attributed to the global recession, which had led many governments to reduce their foreign aid budgets (OECD 2013). In 2013 the trend was broken, as the amount spent on foreign aid hit an all-time high (OECD 2014a). Monetary outlay on aid has fluctuated considerably. Dabla-Norris et al. (2010) has found aid to be pro-cyclical with regard to the business cycles in donor countries.

1.1. Aid and Trade

Given the fluctuating nature of foreign aid, how it is allocated becomes more crucial to those in most need. Two primary ways in which governments can change aid allocation is to reassess which sectors or countries to prioritize. Regarding the latter, the perceptions of motivations behind aid policy have changed. Historically, many have viewed aid giving as an altruistic act. This view has however been criticized as naïve, as many donor countries are acting in ways that would benefit themselves (Wymer 2013). Schraeder et al. (1998) concluded that it is becoming more common for policymakers to justify their aid policy by using arguments rooted in self-interest. For instance, John Kerry, current foreign minister of the United States, explicitly confirms that economic self-interest is an essential motivation for the US aid policy. US actively chooses recipients that they believe can become close trading partners (National Broadcasting Company 2013).

Pursuing the self-interest has become more common among donor countries and we believe that it is more common in difficult economic times. In a recent example, the government of Canada cut its overall aid budget in 2011. This cut had however not affected all recipient countries to the same proportion as foreign aid to middle-income trade partners were not cut (The Guardian 2012). This behavior which was criticized by OECD (DAC 2012). A government communications officer noted that there is a growing inclination towards giving more aid to closer trading partners in recessions, to increase exports would result in a stronger economy (The Guardian 2012). Even Sweden, known as the “darling of the Third World”, shifted aid resources to closer trading partners during an extended recession (Schraeder et al. 1998). These examples raises an important question: Were they isolated events, or do

governments prioritize aid to closer trading partners in difficult economic times, as a means to keep exports up?

1.2. Aim and Scope of Study

We know that trade is an important motivation for aid and has become even more central after the end of the Cold War has been empirically established (Neumayer 2003). What has however not been established, as far as we know, is if the significance of trade vis-à-vis other motivations tends to shift in importance when the economy fluctuates in the donor country. We aim to fill this gap by answering the following research question:

Is foreign aid to closer trading partners less sensitive to economic fluctuations in donor countries?

Our hypothesis is that governments in difficult economic times are more self-interested, and thus prioritize aid to closer trading partners to benefit the economy.

With regard to donor countries, we limit ourselves to countries that are members of the Development Assistance Committee (DAC), due to poor data availability from non-DAC countries. Out of the total amount of aid committed, the share coming from DAC countries has been approximately 85 % during the last decade (QWIDS 2014). All recipient countries that OECD has data on are included. For a detailed specification of all recipient and donor countries the reader is referred to the first subsection of the appendix. Lancaster (2007) describes a perceived paradigm shift in the motivation of aid after the Cold War. Therefore we restrict our study to after the end of the Cold War. We could not find data of bilateral trade after 2009 that was comparable over time, collected in one consistent dataset. In line with the above we have chosen to limit our study from 1992 to 2009.

A vast amount of empirical studies concerning the long-term changes in aid motivation exists. We hope to contribute to the current research by studying whether aid motivation changes when the economy fluctuates. The subject matter is important to study given that those in most need of aid can be affected. Closer trading partners are most often not the poorest countries. What makes it furthermore important to study from this point of view is that Kharas (2008) concluded that high aid volatility is problematic to recipients, as it magnifies real business cycles and creates a less attractive investment climate. Given a positive answer

to our research question, aid volatility is expected to increase. This is likely to result in a prolonged period of time for recipients to achieve the sustainable economic growth needed, to lift them out of poverty. Moreover, this problem could be exacerbated as Reid and Burns (2010) concluded that the future of richer countries are likely to be that of shorter, more volatile and global business cycles. The problem of aid volatility could partly be solved by coordination among donors, but Öhler (2013) find that coordination is modest.

In the analysis we find indicative support for our hypothesis. Using pooled ordinary least squares estimations with time, donor and recipient fixed effects, we find that the variable of interest is statistically significant when controlling for commonly used control variables in the aid literature. These results suggest that donors pursue their self-interest in economic difficult times.

The paper is organized as follow. In the next section we present a background to foreign aid. In section 3 we present a summary of previous research on aid motivation. In section 4 we present our hypotheses, with motivations. In section 5 we present the model and the data with which we use to test the hypotheses. In section 6 we present the empirical findings, which we discuss in section 7. In section 8 we present concluding remarks.

2. Background

In this section, a historical background of foreign aid is presented with definitions and distinctions. Furthermore an explanation on how the relationship between trade and aid is intertwined is provided.

2.1. Historical Background

The first act of foreign aid was established in 1812. This was the starting point of the modern foreign aid, with Western countries giving aid to their poor former colonies. The first considerate rise in monetary amount spent on foreign aid came about in the aftermath of the Second World War (Kanbur 2003). United States initiated a project known as the Marshall Plan, to help struggling countries in the post-war Europe. An essential focus was to re-build much of what had been ruined and to improve economic recovery in Europe. The policy was motivated by helping states to improve the living conditions of millions of people, which had fallen dramatically during the war (Maizels and Nissanke 1984).

Given the considerable magnitude of the Marshall Plan a new organization needed to be established, within which the project could be implemented. The Organization for European Economic Cooperation (OEEC) was therefore founded in 1948. This organization would in 1961 evolve into the OECD. Within the first year DAC was developed. DAC form a special forum within the OECD where issues regarding foreign aid are discussed. Today DAC has 29 members, which includes 28 states and the European Union as a specific member (OECD 2011).

2.2. Measures of Foreign Aid

In 1969, DAC developed a measure of foreign aid known as Official Development Assistance (ODA). ODA can be either grants or loans. It includes a flow that is being undertaken by official financing, with the promotion of the economic development and welfare of developing countries, and is concessional (with a grant element of at least 25 percent) (OECD 2008).

Foreign aid can generally be divided into two sub-genres: humanitarian aid and development aid. The former involves helping those suffering from immediate disasters, the latter term is used for describing aid to support economic, social and political development of recipient countries (Walmsley 2010). When the term foreign aid is used from here on, unless explicitly stated otherwise, we will be referring to development aid. Furthermore, there is a distinction with regard to the timing and certainty of amount spent on foreign aid. Commitments are firm obligations by a government backed by funds. Foreign aid is first regarded as disbursed when the resources are placed in the recipient country. As commitments are usually stated before disbursements, there is a time lag between the actual intention of aid, and when the aid is actually received in the recipient country. Moreover, there is a separation between that of bilateral aid, aid given from one state to another, and multilateral aid, aid given from a partner of donor countries or international institutions, such as UNICEF or the World Bank (Wagner 2003).

Although the long form of ODA includes the terms “development assistance”, humanitarian aid is a subsector of ODA, and therefore included in the monetary statistics of ODA outlays. The amount spent on humanitarian aid has extreme annual fluctuations given the fact that it is largely reflected by the frequencies of catastrophes in any given year. Given the context in

which humanitarian aid is usually discussed, when immediate disasters hit a nation, motives for giving humanitarian aid are somewhat different to that of development aid. Although the motivations are often described as more altruistic, strategic reasons still tend to be considered when some states give humanitarian aid (Nielsen 2010). For a more detailed account on the multitude of motivations for giving aid, the reader is referred to the next section of this paper.

To account for only development aid, an alternative measure of development aid was established in 1997, known as the Country Programmable Aid (CPA). It measures the proportion of aid within which the recipient country has a significant influence in. Several sectors that are included in the statistics of ODA, are excluded from the CPA-measure, one of them being humanitarian aid (OECD 2014b).

2.3. The UN Target

As Europe in the late sixties and early seventies were experiencing economic recovery, there was a shift in the potential group of recipient countries of foreign aid. There were still many countries with extensive poverty. To achieve a solution to this problem, the United Nations General Assembly Resolution, established a target in 1970 on how much the rich countries of this world should contribute to foreign aid (DAC 2010). The goal was set to 0,7 percent of the Gross National Income (GNI) to be spent on ODA. However, there was no detailed directive as to aid should be allocated. A majority of the DAC countries are and have for a long time been far away from reaching the 0,7 percent target. With the recent decrease in ODA spending, many donor countries are further away from reaching the target than before the financial crisis (OECD 2012; OECD 2013). In 2000, in a world with many countries still suffering from poverty, UN developed the so called “Eight Millennium Goals” (MDV), where halving extreme hunger by 2015 was one of the eight relatively more clear targets. The 0,7 percent target goal was at this point reaffirmed. A clearer direction as to how to give aid was indirectly at hand, given the nature of the goals that the relatively wealthy countries pledge to achieve (UN 2014a; UN 2014b).

2.4. Recipients

If the goal of halving extreme hunger should be achieved, this would naturally affect which countries receive the most aid. Recipient countries are usually divided into how large their economies are, which is measured in GNI per capita. The monetary values are measured in GNI per capita. Those ranked as low income countries (LICs) are those in which GNI per capita is \$1035 or less, lower middle income countries (LMICs) are in the range of \$1036 -

\$4085, upper MICs are in the range of \$4086-\$12615 and high income countries (HICs) are those with GNI per capita is \$12616 or above (World Bank Group 2014). Given economic development in many countries, partly attributed to foreign aid, the number of MICs has dramatically increased over the last two decades, whereas the opposite is true for the number of LICs (The Guardian 2012).

2.5. Aid and Trade

There are both indirect and direct links between aid and trade (Wagner 2003). An example of the latter is that of tied aid. Tied aid is aid that must be spent in a specific geographic area, most often the donor country (Brech and Potrafke 2014). Whereas some of these exports from donor countries could have been achieved without the tying of aid, most tied aid is expected to lead to a direct increase in exports, which would benefit export industries in donor countries. A more subtle form of tying aid would be when donor countries finance development projects in which supplies from industries where the donor country is particularly strong, would be required. The practice of tied aid was particularly widespread in the early 1990s when typically 50 % of all bilateral aid was tied aid. The reported figures has since decreased somewhat, but donor countries still continue to tie aid. As trade still is an important determinate of aid, even growing in importance after the end of the Cold War, other relationships that are indirect links between aid and trade has been studied (Wagner 2003).

An indirect link is when a recipient imports more from the donor country expecting they will receive more aid in the future from the donor country. Indeed if a donor country exports more to a recipient country than the donor country might also feel inclined to give more aid (Wagner 2003).

3. Previous research

In this section we will present previous research about what motivations there are behind selecting particular countries as aid recipients from donor countries' point of view.

Why do states give foreign aid and what governs which countries are chosen as aid recipients? Numerous theories regarding donors' motivation for foreign aid exist. The distinction between self-interest and humanitarianism has in most cases been the focal point in contrasting theories (Van der Veen 2011). Fuller (2002) identified three general theories

that explain why governments choose to give foreign aid to certain countries: the idealist, realist and neo-realist theories. Governments use these theories to explain to citizens, and elicit the support for, their aid policies. Each theory has empirical evidence pointing in its favor. The theories have their origin within political science focusing on international relationships, since they have different perspectives on how governments act in an international arena, however in this paper special focus will be on foreign aid policy implications.

3.1. The Idealist Theory

Idealists hold the view that the political philosophy domestically should match the foreign policy (Smith 1923). If an objective of a government were to reduce poverty within the country, an idealist would argue that the policy of the government should strive to reduce poverty abroad as well. Self-interest can thus not explain motivation. Within the field of foreign aid the theory is based on altruism, focusing on humanitarian concerns. Idealist scholars would argue that the motives of governments for giving foreign aid is that governments are concerned with the humanitarian problems of the world, and that the first priority would be to help the people of the third world. Therefore they do not believe that strategic or economic interest of the donors is what governs governments' choices with regard to aid (Fuller 2002).

Idealist can refer to the empirical findings that poor countries tend to receive more aid, which is known as the income bias (Fuller 2002). There is however a discrepancy in how foreign aid money is actually spent, compared to how it should have been spent to most efficiently reduce poverty, with regard to recipient allocation (Collier and Dollar 2002). Although much of the resources go to low-income countries, a substantial amount of resources are still sent to recipient countries that are not the relatively poorest. In fact, the relative share of aid flows to low-income countries has decreased over time (White 2004). This might partly be attributed to the fact that there are fewer low-income countries in the world today. It however also illustrates the point that although there are still low-income countries in the world, middle-income countries still receive a considerable, and in fact rising amount of foreign aid. Kamminga (2007) argues that the idealist theory might be better in explaining why some countries give more aid in the long run than others, than actually explaining the aid allocation when it comes to which recipient countries are focused on.

3.2. The Realist Theory

Realism is a school of thought radically different from that of idealism. Focus is on how the world is perceived, rather than how it ought to be like (Mearsheimer 2002). In realism, international anarchy is central. With no world leader, states and group of states will pursue their own self-interest, and there is constant antagonism between the states. The most essential concern of the state is that of survival, which would incline governments to focus on security and building up military. Within the field of foreign aid, the theory is based on self-interest with emphasis on the security of the state. Realism scholars would argue that a government's motives for giving foreign aid is governed by strategy, such as increased national security and self-preservation (Fuller 2002). Given the focus on self-interest, realists believe that the developing countries in most dire needs will not receive the most foreign aid, if they are not by coincidence, the most strategically important countries as well, from the point of view of the donor countries government. Actual humanitarian need and the economic development in the recipient country are thus not perceived as the most important motivation for governments giving foreign aid.

Realists can refer to the empirical findings that donors tend to give more aid to countries that are considered strategically important, from the viewpoint of the donor country. The acceptability of the people in donor countries has been higher when sending aid to countries where the people has perceived strong shared values in the role of the state and on other political issues (Lancaster 2007). In line with this, donor countries have given more aid to countries with similar ideological views (Fuller 2002). Giving more foreign aid to ideologically like-minded countries was especially widespread during the Cold War, when for instance United States did not give aid to socialist regimes. In this way a country could support its "allies" which was important from a security and influence in the world point of view. Another motivation of giving aid, tied to influence and shared values is that of colonial status. Former colonies tend to receive more foreign aid (Berthélemy and Tichit 2004). Political institutions form an important motivation for giving aid (Lancaster 2007). Countries that are more democratic tend to receive more aid. Some donors view less populous countries to be easier to influence in what they consider to be a positive direction. They tend to receive more aid per capita, which is known as the small-country bias (Fuller 2002).

With the end of the Cold War there has been a big shift in focus, with a decrease in political and security strategic motives as determinates for aid (Lancaster 2007). This was considered

to be a paradigm shift in the motivation of aid giving, with more focus on economic self-interest reasons on the rise in motivation for foreign aid (Fuller 2002). The importance of the realism theory for explaining foreign aid policy has thus, in this aspect, declined. However, with the “War on Terror” the focus on giving aid for security reasons has seen the light of day again (Azam and Thelen 2013).

3.3. The Neo-Realist Theory

Neo-realism is a school of thought that has its origin in the realism theory. Whereas realists believe that human nature is an important factor in international politics, the neo-realists see international politics in a systematic nature (Waltz 1990). Focus is on achieving relative gains and power. To neo-realists, increased military strength is not the only way for states to strengthen its relative capabilities, and position in the world. Economic “capability” is also highlighted in contrast to the realist theory. Within the field of foreign aid this theory is based on self-interest, with relatively more emphasis on economic interests of the state compared to realism. Neo-realist scholars would argue that self-interest, in form of potential economic gains, for instance in form of increased exports to recipient countries, is an important motivation for governments giving foreign aid (Fuller 2002).

Neo-realists can refer to the empirical findings that donor countries tend to give more aid to trade partners, which usually benefits the donor country. Realizing the commercial potential is claimed to have been the reason for why some countries have started given foreign aid to some particular countries (Berthélemy and Tichit 2004). Indeed, bilateral trade has shown to be an important determinate for giving aid. Countries that import more from a donor country tend to receive more aid (Neumayer 2003).

3.4. Diverse Nature of Motivations

As can be noted from above, motivation for aid has been widespread and diverse. Findings in research support the view that donors do not give foreign aid for a particular reason, in line with only one of the theories above. Motivations are more complex and usually in line with all three theories above, with difference in relative importance (Fuller 2002). One of these factors usually outweighs the others for a specific donor country (Lancaster 2007).

Berthélemy (2006) characterize different donor countries with focus on trade as a motivation,

as either acting in an altruistic or egoistic (in their self-interest) manner.¹ He further notes that United States tend to give a considerable amount of foreign aid to Israel and Egypt out of strategic reasons, and also give more aid to Latin American countries. Japan tends to give proportionally more aid to Asian countries, out of geopolitical interest.

4. Hypotheses and Theory

In this section we present two hypotheses with regard to the research question. We also present motives for our hypotheses, in form of theoretical reasoning.

4.1. Hypotheses

Given the research question, hypotheses in which we consider the cyclical position of the donor country are presented. As there are different classifications regarding periods in the business cycle, we make use of our own distinctions. Rather than using the growth rate per capita as a measure of cyclical position, we use output gap as a measure of the cyclical position. For a motivation of this the reader is referred to the next section.

To consider whether the potential change in aid allocation is first triggered when a donor country is experiencing an economic shock, we introduce a scenario in which the output gap of the donor country is in the lower quartile of the same during the time period. This scenario will henceforth be known as the crisis scenario.

We believe that governments will have an easier time to motivate aid policy for selfish reasons in difficult economic times, when the aid policy is most likely under most attacks. In line with this reasoning, the neo-realism approach is more important in explaining aid allocation in difficult economic times.

Given the reasoning above we present the following two hypotheses:

Hypothesis A. When output gaps are negative in donor countries, compared to when they are not, donor countries will tend to give more aid, in relative terms, to closer trading partners.

Hypothesis B. When donor countries are experiencing economic crises, they will tend to give more aid, in relative terms, to closer trading partners.

¹ He studies the elasticity of aid to trade intensity and classifies Japan, USA, France, Italy and Australia as “Egoistic”. Switzerland, Norway, Australia, Ireland, the Netherlands, Denmark and New Zealand were classified as “Altruistic”.

We note that the negative output gap scenario and the crisis scenario are not mutually exclusive, since the former is a prerequisite for the latter. We will however study the two scenarios separately, partly given potential differences in relative importance of self-interest as a motivation for aid allocation among donors. This could result in that the effect, if it exists, could enter in different economic scenarios depending on the motivation of donors.

4.2. Motivations for Hypotheses

When seeking to explain potential shifts in aid allocation, as noted in the preceding section, a multitude of motivations can underlie the choice of a government with regard to aid policy. In the end, the only way for a government to be able to carry out its aid policy, and indeed any other policy, the policies of the government needs to be supported by the electorate. What affects to which extent the people support the aid policy of the government? Do people of donor countries have fully altruistic concerns in mind when evaluating the aid policy of the government? No, as is mirrored by government's motivation of aid giving, self-interest concerns also affect the way in which people support the aid policy. Can economic difficult times in the donor country potentially change the magnitude of support for the aid policy? Lancaster (2007) found that contextual factors in the donor country affect the political legitimacy to carry out foreign aid programs.

The current state of the economy and how that has affected people is naturally a contextual factor in the donor country. A rise in unemployment usually results in a lower output gap (Jahan and Mahmud 2013). In difficult economic times, there tends to be domestic pressure on the government to alleviate the problem of high unemployment as best it can. The electorate will most probably not view increased aid outlays to recipients as a solution to this. On the contrary, in difficult economic times short-term self-interest most likely plays a more important role in explaining how individuals behave. Laitman (2011) notes that the most natural response in difficult economic times, for individuals as well as countries, is to close oneself off and protect those closest around oneself. This will likely induce political pressure on the government, from the voters, to considerably reduce spending on foreign aid.

Although the elected leaders are in essence principals and the public agent, governments receive pressure from international organizations as well, especially with regard to the aid policy. The UN for instance, is likely to put pressure on governments to increase foreign aid, especially since many states are still far away from the UN target and many recipient

countries are still poor.

How can a government cope with these two different standings simultaneously? Undoubtedly, it cannot since they are of contradictory views. When in difficult economic times, can the government reduce aid commitments only slightly and still get support from the people that would like to reduce it further? Is there an alternative way to elicit support for aid policy or is the evaluation of the policy tied directly to the amount of foreign aid a donor country gives? Wagner (2003) noted that if a government could show that benefits would come back to the taxpayers in some other way, governments found that they had an easier time in defending their aid policy to the electorate. Money could come back to the taxpayers through increased exports.

When in difficult economic times, Keynesian economists would argue that governments should implement a counter-cyclical fiscal policy, in other words, stimulate the economy. This could be done by increasing public investment or lowering taxes to stimulate consumption. The government budget balance would however decrease, which is of utmost concern in times of relatively high public debt.

Another way to dampen a difficult economic situation would be to increase exports. By increasing exports, some workers that might have been considered redundant by employees, might instead keep their jobs. As their income did not decrease as much as it otherwise would, they can afford to consume more, which will benefit the domestic economic situation. How can a government potentially reach this scenario?

As a recipient is a close trading partners, a donor country might in turn benefit the recipient by increasing aid. The government of a donor country can do this, expecting the donor-recipient pair has reached an implicit contract of untied aid. If this understanding has been met, the recipient will in turn import more from the donor. This would dampen the difficult economic situation in the donor country. If a donor country substantially decreased aid to a close trading partner, the recipient might import less from the donor country, which would hurt the economy of the donor country even further.

Realizing that the government would have to endure strong international political pressure if

it substantially reduced total aid commitments or explicitly tied more aid, the government could thus instead change aid allocation, in line with the short-term self-interest.

5. Method and Data

In this section we present two empirical models with which we can test our hypotheses and also present how we have gathered relevant data.

5.1. The Model

Dependent variable

Given that our aim is to find out how the amount of foreign aid to recipients are affected by specific independent variables, a dependent variable with amount of foreign aid to a recipient, from a donor, is appropriate. Holding every other characteristic the same, a more populous country will tend to receive more aid in absolute terms, than a smaller country. Given these differences in sizes of recipients, it is more appropriate with a measure of aid per person. Our dependent variable is the natural logarithm of aid/capita. This is the most common choice of aid variable in empirical research (White and McGillivray 1995).

With regard to the bilateral aid values, 49 observations contain negative values of the independent variable, whereas 38580 contain missing values. A majority of the missing values are null values that have simply not been reported (Dabla-Norris et al. 2010). Different researches have handled this situation differently. If we would treat the values as missing it could result in a bias, if for instance, observations are true null values and these observations are non-random. We therefore follow a similar approach of Dabla-Norris et al. (2010) and transform the dependent variable in the following way:

$$\text{sign}(Aid_{to\ r\ from\ d,t}) * \ln \left(1 + \left| \frac{Aid_{to\ r\ from\ d,t}}{Capita_{r,t}} \right| \right) = \frac{Aid_{to\ r\ from\ d,t}^*}{Capita_{r,t}}$$

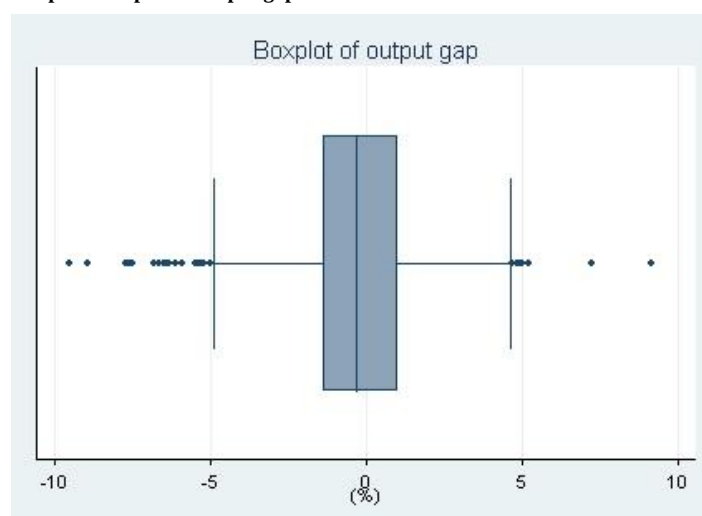
We comment on how the results would change, had we not treated all the missing values as null values, and thus not transformed the dependent variable. For these comments the reader is referred to the next section.

Independent variables

With regard to the independent variables, we first introduce a measure of relative closeness of trading partners. Given that we in this paper study how aid is allocated, we introduce a measure of how strong trading partners two countries are from the viewpoint of the donor. In line with this we use a percentage of total exports that the donor exports to the recipient, as a measure of how close two trading partners are. This measure was used by Barthel (2013) as well, when considering how strong bilateral trade ties are.

As the level of aid from a donor country tends to exhibit a pro-cyclical relationship with respect to business cycles in the donor country, we introduce a variable of annual output gap in the donor country. We find the measure of growth per capita to be inferior, because different countries tend to grow at different paces. A growth level that reflects good economic times in one country might be considered the opposite in another. Furthermore, the output gap puts the actual economic growth in relation to the potential growth. In using the output gap as a measure, we therefore consider the fact that even though a country is experiencing positive growth it can still be in difficult economic times. Therefore we consider it to be a better measure of what shape the economy is in. Moreover, this is in line with how Dabla-Norris et al. (2010) conducted their research of how aid varies with donor countries economic fluctuations. With regard to the crisis scenario we add a crisis-dummy, which takes on the value of one whenever a donor country is having an output gap that is in the respective countries lower quartile for the time period. This value therefore differs between countries, but on average it is that of an output gap of -1,5 percent. This is seen in the graph below:

Graph 1. Boxplot of output gap



To separate how the closeness of trading partners can affect aid differently by the scenarios in the hypotheses section, we add an interaction between relative export and output gap in the first model. In the second model we add an interaction effect between relative export and the crisis-dummy. This is the relevant variable to study.

Given the reasoning above we have the two following models:

A:

$$\frac{Aid_{to\ r\ from\ d,t}^*}{Capita_{r,t}} = \beta_0 + \beta_1 \frac{Export_{from\ d\ to\ r,t}}{Export_{from\ d\ to\ all\ countries,t}} + \beta_2 outputgap_{d,t} + \beta_3 \frac{Export_{from\ d\ to\ r,t}}{Export_{from\ d\ to\ all\ countries,t}} * outputgap_{d,t} + X\beta + a_r + a_d + a_t + u_{rd,t}$$

B:

$$\frac{Aid_{to\ r\ from\ d,t}^*}{Capita_{r,t}} = \beta_0 + \beta_1 \frac{Export_{from\ d\ to\ r,t}}{Export_{from\ d\ to\ all\ countries,t}} + \beta_2 crisisdummy_{d,t} + \beta_3 \frac{Export_{from\ d\ to\ r,t}}{Export_{from\ d\ to\ all\ countries,t}} * crisisdummy_{d,t} + X\beta + a_r + a_d + a_t + u_{rd,t}$$

Where a_r is recipient fixed effects, a_d donor fixed effects, a_t time fixed effects, and $u_{rd,t}$ is the idiosyncratic error, and $X\beta$ is a set of control variables, which we introduce later on.

Regarding notations, r denotes the recipient country, d the donor country and t the year. In the following subsection there is a description of the dataset and on which control variables we will introduce.

5.2. The Dataset and Variables

We have compiled a dataset, based on external data. The dataset contains annual data, specific to the recipient country, the donor country, as well as bilateral data. For a definition of the variable the reader is referred to Appendix 2. Data on one donor-recipient pair in one year constitutes one observation. In total our dataset consists of data on 28 donors, 154 recipients, which results in 4 312 donor-recipient pairs, or 77 616 observations.

With regard to the measure of monetary amount of foreign aid, statistics of ODA has been used. We considered using CPA as a measure of aid instead, since it excludes humanitarian aid, but ultimately decided against it. This was due to the fact that the data on CPA only

ranges from 2000 and onwards. We did not find data of nine years to be sufficient enough to draw any conclusions with regard to how economic fluctuations affect aid allocation.

Regarding the flow type of ODA we have used data on aid commitments. Given that the focus is on aid allocation, decisions from the viewpoint of the donor country are best mirrored in aid commitments, not aid disbursements. In line with the reasoning above, White and McGillivray (1995) argue that commitments are the choice variable of donors, whereas disbursements can be influenced by whether the recipient country reaches certain conditions. Furthermore, aid commitments tend to respond within the same year to economic fluctuations in the donor country, whereas disbursement tends to be sticky (Hallet 2009).

When experiencing an immediate difficult humanitarian situation, like a natural disaster, a recipient might be in need of more aid. This can substantially affect the level of aid to a recipient. If physical capital has been ruined, a disaster can affect the level of ODA not only through the means of humanitarian aid, but also by increasing development aid as capital needs to be re-built. As the primary motivation of giving foreign aid when a recipient is in a humanitarian disaster tends to be different of that of long-term development aid, and that the need will vary in magnitude with respect to the severity of the situation we will introduce two control variables. We include a control variable that takes on the value of one, if there has been a natural disaster in the recipient country, the respective year. Since democratic countries tend to receive more aid, we introduce a control variable, which is an annual measure of how democratic or autocratic recipient countries are considered. Given the (low) income bias we introduce a measure of GDP per capita in the recipient country as a control variable. Population in the recipient country is also added as a control, given the small-country bias. The control variables above we find to be central and we will consequently include them throughout our studies. Given that the motivation of aid is diverse, we will however add more control variables throughout. These variables are defined in Appendix 2.

5.3. Econometric Discussion

We analyze the problem using pooled ordinary least squared with donor, recipient and time fixed effects. Donor fixed effects are included to control for time-invariant differences between donors, which would for instance include any tendencies for some donors to tie more aid or act more or less altruistic. Recipient fixed effects are included to control for time-invariant differences between recipients, such as some recipients tending to receive more aid since they are located in an area which is consider to be geopolitically significant. We use

time fixed effects to capture general trends in aid flows. In applying fixed effects we avoid potential problems with omitted variable bias related to time-invariant characteristics of the recipient and the donor country. This is an advantage as the characteristics might be difficult to quantify.

Does aid cause trade or does trade cause aid? In the academic literature focusing on the relationship between trade and aid, the direction of causality has to a great extent been studied. The relationship between aid and trade is complex, and tends to vary between different donor-recipient pairs. Both directions of causality have been empirically established. Furthermore, a bi-directional causality has been found in most donor-recipient pairs (Silva and Nelson 2012). These results have however been criticized by Wagner (2003) for relying on disbursements data rather than data on commitments. This is problematic since a recipient country might import from the donor country already aware of potential upcoming aid in form of aid commitments.

Given this complexity, with potential reverse or duals causality flows, it becomes difficult to discern the effect of trade on aid. A way to mitigate the potential problem with reverse causality, and thus endogeneity, would be to introduce an instrumental variable. We have not found a reasonably understandable example of an appropriate instrumental variable in other empirical research, and as a result not used one in this paper. However we conclude that that in using commitment data, as opposed to disbursement data, and donor fixed effects problems with tied aid are reduced.

5.4. Data Sources and Reliability

Data on population and all the macroeconomic variables except for output gap are from the World Bank's World Development Indicators (WDI). WDI is considered to be a reputable source, and the data is comparable over time. The data of output gap and ODA is from OECD, and would be considered reliable as well. We however note that calculating output gaps are difficult, as potential growth levels are difficult to estimate. We however rely not only on these measures, but test a different specification in the results section. The bilateral trade dataset we have used was compiled by the Correlation of War-project. This data is based mostly on data from the International Monetary Fund, which would be regarded as reliable as well.

6. Results and Analysis

In this section we present regression results, which we analyze with focus on how well the results are in line with the hypotheses. In accordance this section is separated into a subsection for the first and the second model. In respective subsection we test the robustness of the results.

6.1. Results Model A

The regression results are presented in the fourth subsection of the Appendix. In table A1 we present the results from model A, without adding any extra controls. Regarding the coefficient of relative export and output gap, we note that the effect of these variables on aid are not solely determined by the coefficients of the additive single terms, as there is an interaction effect between the two variables as well. Given that the average of the export share and output gap are close to zero, which can be seen in Appendix 3, we conclude that the results are in line with what we would expect. Closer trading partners tend to receive more aid, and aid tends to be pro-cyclical with respect to the business cycle in the donor country. The interaction term is however the relevant variable to study for our hypothesis and research question. The coefficient of the interaction term is negative, indicating that donors tend to prioritize closer export partners, when donors are in difficult economic times. Given how the model is specified, the reverse is also true. This is consequently in line with the assumption that aid commitments to closer trading partners are less sensitive to economic fluctuations in the donor country. The coefficient of the interaction term is statistically significant at a 10 % level. Whereas results are in line with hypothesis A, we want to check for the robustness of the results.

Initially we test if extreme outliers might affect the results. The data includes two extremely high values of aid and several negative values. We regress without these observations and conclude that the difference is marginal compared to the regression above. Results can be found in table A2. These results are expected given that natural logarithm functions reduce the impact of outliers.

We will now introduce more control variables to find out whether the patterns as above still appear. Given the special nature of aid from the United States to Israel and Egypt, we introduce two dummies for these two pairs. Furthermore, we introduce dummies for US and

Latin American countries, as well as for Japan and Asian countries. The results are presented in table A4 and A5. We note that the coefficient of dummy variable for US and Egypt is positive, and very significant. Results are similar to those above.

Colonial status is a relation between two countries, and has therefore not been controlled for by either recipient or donor fixed effects. As former colonies tend to receive more aid from former colonial powers, we introduce a dummy variable equal to one for all pairs where the recipient has been a colony. We expect that the importance of relative export in explaining aid would decrease, as former colonies most likely trade with former colonial powers. As can be seen in table A5, this is what we find. We note that colonies tend to receive more aid, according to the regression. The interaction effect is however still significant at a 10 % significance level.

Given that strategic reasons have been important in explaining aid flows we introduce a measure of military expense in percentage of GDP in the recipient country. Results indicate that recipients with a relatively higher military expense receive less aid. The interaction effect is still significant at a 10 % significance level.

We have now added several controls and have seen how they have affected our result. In table A7 we add all controls mentioned above. We find that the results have not changed much, and that the interaction effect is significant at a 10 % significance level. As this is a regression with all controls we have presented, we present it here in the results section as well:

Table A7. Fixed effect regression results with all controls

Method	FE
	$Aid_{to\ r\ from\ d,\ t}^*/Capita_{r,\ t}$
Rexp	1.18 (2.25)
outgap	0.0025 (0.0047)
rexgap	-0.53* (0.31)
Observations	44796
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, usaidummy, usaedummy, usalatin, japancl, col, mil
Within R-squared	0.17

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Output gap is not a perfect measure of current position in the business cycle, since the average of the values of this variable for all countries collective is negative for this time period. Whereas the time fixed effects are helpful, the average of the output gap differ among donors. The average output gap is positive for some donors, but for a vast majority they are negative. We therefore introduce another measure of cyclical position. Given our hypothesis, a measure that captures how high unemployment is interesting. As a direct measure of unemployment is difficult to use, in line with the arguments in the previous section as to why a measure of growth is troublesome, we make our own measurement. We define the measure of unemployment spread, which is the current unemployment subtracted by the average unemployment through the time period per respective donor. In doing this, the average will be zero for all donors individually, and collectively. We realize that this measure is far from perfect, since it is based on the average for a time period, which might have been perceived as a better economic time for some than for others. Given that a positive unemployment spread is an indication of bad times, we expect the reverse signs as to the output gap scenario. As indicated in table A3, this is indeed what we find. The interaction term has however lost statistical significance at any conventional level. Whether this depends on the fact that output gap lags behind unemployment, and that when making decisions, politicians consider the current figures of the output, we cannot conclude. We however note that these results, whereas not as significant, are still in line with hypothesis A.

In appendix A, looking at the regressions it becomes apparent that many values are missing. Mostly values that are missing are values of relative export, and some control variables that are not reported for all recipients. This is clearly a potential problem with bias. We however note that these values are not only missing from for instance poor countries, they are also missing from for instance rich small recipient countries, but also to some extent from bigger relatively wealthier recipients as well.

Given that some countries are considered more self-interested in their aid policy, it would be of interest to see if self-interested countries are more selfish in difficult economic times. With the classification of Berthélemy (2006), we study the different groups of donors. The results are presented in table A9 and A10. Whereas the coefficient of relative export shows surprising differences, the difference in the estimates of the interaction effect is not substantial. While the interaction effect is statistically significant at the 5 % level for the self-interested countries, it is significant at the 10 % level for the altruistic countries. This is

mostly due to the lower standard error for the former. Therefore the motivation for altruistic countries might differ more within the group of donors, than for self-interested countries.

We note that had we treated the missing values as missing, and used the natural logarithm of aid per capita as the dependent variable and consequently excluded negative values, the interaction term would have been statistically significant at lower levels. Transforming the dependent variable to include missing values as null values, and include negative values, appears to be the more conservative approach. These models are however not directly comparable. In addition, we do not know how many observations of the missing values are in fact true null values.

The control variables which are added in the fundamental model most often show the expected signs, and are rarely statistically significant at any conventional level, with the exception of the measure of democracy. What is interesting to note is that we see no indications of the (low) income bias for self-interested countries, whereas the affect is present for altruistic countries.

6.2. Results Model B

In table B1 we present the results from model B, without adding any extra controls. Given that the average of the export share and the crisis-dummy are close to zero we conclude that the coefficient of relative export and the crisis-dummy have expected signs. Closer trading partners tend to receive more aid, and aid commitments tend to be reduced when donor are in economic crisis. Compared to model A, we expect the opposite sign on the interaction term. That is also what we find. The coefficient of the interaction term is positive, indicating that donors tend to prioritize closer export partners, when donors are in economic crisis. This is in line with hypothesis B, and the coefficient is statistically significant at a 1 % level. While results are in line with hypothesis B, we would like to check for the robustness of the results.

In table B2 we present results when regressing without the outliers. The difference in results are trivial, which was expected. We now introduce further control variables. Introducing dummies for United States relationship to Israel and Egypt does not change results much, as is evident table B3. The same is true with the US-Latin America countries-dummy and the Japan-Asian countries-dummy, as is evident in table B4.

Turning to the scenario of former colonies, the results are presented in table B5. The effect of relative export on aid is now smaller, which was to be expected. The interaction effect is still significant at a 1 % significance level. Controlling for relative military expense in the recipient country, the results does not change much, as is evident in table B6. In table B7 we present the regression result with all controls present. We note that the interaction effect is still significant at a 1 % significant level.

Table B7. Fixed effect regression results with all controls

Method	FE
	$Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	1.03 (2.19)
cri	-0.081** (0.035)
criexp	17.85*** (4.87)
Observations	45537
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, usaidummy, usaedummy, usalatin, japancl, col, mil
Within R-squared	0.17

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Given our unemployment spread scenario for model A, we also present an unemployment spread crisis scenario. The new crisis-dummy takes on the value of one when the unemployment spread is above 4 percentage points. This is an arbitrary point, which we decided on after looking at a graph of unemployment spread over time for donors. We expect to find opposite signs on the interaction effect, which we do, as can be seen in table B8. The interaction effect is significant at a 1 % level, which is in line with hypothesis B.

The comparison between donors classified as pursuing their self-interest in their aid policy compared to those regard as altruistic, we refer the reader to table B9 and B10. We note that the interaction effect estimated for self-interested countries is higher, and that the statistical significance differ. For altruistic countries the interaction effect is significant at a 5 % level.

We note that had we treated the missing values as missing, and used the natural logarithm of aid per capita as the dependent variable and thus excluded negative values, the interaction term would still be statistically significant at low levels.

The control variables we added in the fundamental model most often show the expected signs, and are often not statistically significant at any conventional level, with the exception of the measure of democracy. What is interesting to note is that in this scenario we still see no signs of the (low) income bias for self-interested countries, whereas the affect is present for altruistic countries.

7. Conclusions

In this section we provide an answer to our research question and present concluding remarks.

Is foreign aid to closer trading partners less sensitive to economic fluctuations in donor countries?

We conclude that there is indicative support in line with a positive answer to the question, supporting hypothesis A. Without one exception, the effects are statistically significant at conventional levels. Our results are robust to outliers, as well as adding control variables that are standard in the aid literature. We conclude that there is even more indicative support that the effect is present when donors are in economic crisis, strongly supporting hypothesis B. This is especially evident for countries considered to pursue their self-interest, more so than others, in their aid policy.

Whereas our purpose was to establish whether there was an effect or not with regard to the research question, we can also briefly discuss the economic effect. We would like to note that the dependent variable is transformed, so estimates cannot be made by simple elasticities, approximation can be made when there are large enough numbers. The estimated effect from model A was that of less than one percentage, which implies that for those recipients with a relative export share of 1 percentage point more than that of another for a particular donor, a recipient tends to receive slightly less than one percentage more aid in relative terms, when donor output gap for instance decreases from 0 % to - 1 %. This effect is considerably larger

when donor countries are in crisis, as is evident in Table B7 in appendix 4.

Our findings contribute to the current literature in illustrating that motivation behind aid allocation can change, depending on economic fluctuations of donor countries. This study therefore provides another insight in to how self-interest can motivate donors with regard to aid policy. These findings can have special implications for countries that are not perceived as attractive trading partners, as the aid volatility for these countries would increase even further. Given this implication we hope that these results will be discussed with regard to aid policy.

In expanding the view we note that most scholars that have studied the subject matter of foreign aid, have studied how effective different kinds of measures of aid are in alleviating poverty, or examined what motivations from the donors' point of view there are behind aid allocation. We consider both of these to be essential in understanding how foreign aid is motivated, and how it best helps poor people. We however find that the vast majority of research behind aid allocation has been that of long-term motivations. Trends in motivations has also been studied, with the example of the paradigm shift with the end of the Cold War.

Whereas long-term motivations and trends form an important part in explaining aid allocation, short-term aspects of motivations behind aid allocation has not to a great extent seen the light of day in research. We note that issue of aid being pro-cyclical, with regard to the current cycle position of the donor country has recently been brought up during the global financial crisis.

Whereas a more globalized economy has so far not resulted in a cohesive global business cycle pattern, it has become clear that the economies of the world are getting more integrated, which might result in more transferable shocks. As business cycles are expected to get shorter as well, and coordination among donors are poor, the issue of how short-term economic effects can affect not only total aid outlays, but also aid allocation, becomes more central. As the role of multilateral aid is becoming more important, it would be interesting to find out if multilateral aid is less sensitive to the current state of the economy, given their often long-term stated commitments.

Whereas other motivations than trade are interesting to study, the motivation of trade is naturally connected to the economic self-interest of the donor, which we would argue is likely

to be more present in difficult economic times. Whereas the practice of tied aid has been criticized, it still constitutes a nontrivial proportion of tied aid. It would therefore be interesting to see if the proportion of tied aid changes with the cycles of the economy of the donor country. In closing, we would suggest further research on how aid allocation potentially changes with the cycles of the economy in donor countries.

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Appendix

Appendix 1. Countries included

Donor Countries			
Australia	France	Korea	Slovakia
Austria	Germany	Luxembourg	Slovenia
Belgium	Greece	Netherlands	Spain
Canada	Iceland	New Zealand	Sweden
Czech Republic	Ireland	Norway	Switzerland
Denmark	Italy	Poland	United Kingdom
Finland	Japan	Portugal	United States
Recipient Countries			
Afghanistan	Cyprus	Lesotho	Saudi Arabia
Albania	Djibouti	Liberia	Senegal
Algeria	Dominica	Libya	Seychelles
Angola	Dominican Republic	Macedonia (FYROM)	Sierra Leone
Antigua & Barbuda	Ecuador	Madagascar	Singapore
Argentina	Egypt	Malawi	Slovenia
Armenia	El Salvador	Malaysia	Solomon Islands
Azerbaijan	Equatorial Guinea	Maldives	Somalia
Bahamas	Eritrea	Mali	South Africa
Bahrain	Ethiopia	Malta	South Sudan
Bangladesh	Fiji	Marshall Islands	Sri Lanka
Barbados	Gabon	Mauritania	Sudan
Belarus	Gambia	Mauritius	Suriname
Belize	Georgia	Mexico	Swaziland
Benin	Ghana	Micronesia	Syria
Bhutan	Grenada	Moldova	Tajikistan
Bolivia	Guatemala	Mongolia	Tanzania
Bosnia-Herzegovina	Guinea	Montenegro	Thailand
Botswana	Guinea-Bissau	Morocco	Timor-Leste
Brazil	Guyana	Mozambique	Togo
Brunei	Haiti	Myanmar (Burma)	Tonga
Burkina Faso	Honduras	Namibia	Trinidad & Tobago
Burundi	India	Nauru	Tunisia
Cambodia	Indonesia	Nepal	Turkey
Cameroon	Iran	Nicaragua	Turkmenistan
Cape Verde	Iraq	Niger	Tuvalu
Central African Rep.	Israel	Nigeria	Uganda
Chad	Jamaica	Oman	Ukraine
Chile	Jordan	Pakistan	United Arab Emirates
China	Kazakstan	Palau	Uruguay
Chinese Taipei	Kenya	Panama	Uzbekistan
Colombia	Kiribati	Papua New Guinea	Vanuatu
Comoros	Korea	Paraguay	Venezuela
Congo. Dem. Rep.	Korea. Dem. Rep.	Peru	Vietnam

Recipient Countries			
Congo. Rep.	Kosovo	Philippines	Yemen
Costa Rica	Kuwait	Qatar	Zambia
Cote d'Ivoire	Kyrgyz Republic	Rwanda	Zimbabwe
Croatia	Laos	Samoa	
Cuba	Lebanon	Sao Tome & Principe	

Appendix 2. Variable appendix

Variable		Definition	Source
Relationship-specific variables			
aid	Bilateral aid	Bilateral aid flows (commitments), current USD divided by population in recipient country	OECD DAC
rexp	Relative export	Export from donor country to recipient country divided by total exports from donor country, current USD	Barbieri and Keshk 2012 Correlates of War Project Trade Data Set Codebook, Version 3.0 Online: http://correlatesofwar.org
rexgap	Interaction term	Relative export multiplied by output gap	Correlates of War 2 Project: Colonial/Dependency Contiguity Data, 1816-2002 Version 3.0 Online: http://correlatesofwar.org
unspexp	Interaction term	Relative export multiplied by unemployment spread	
criexp	Interaction term	Relative export multiplied by crisis-dummy	
uncriexp	Interaction term	Relative export multiplied by unemployment Crisis-dummy	
usaidummy	USA-Israel dummy	Dummy equal to one if donor is US and recipient is Israel	
usaedummy	USA-Egypt dummy	Dummy equal to one if donor is US and recipient is Egypt	
col	Colonial dummy	Dummy equal to one if recipient has been colony of donor	
usalatin	USA-Latin dummy	Dummy equal to one if donor is US and recipient is in Latin America	
japancl	Japan-Asia dummy	Dummy equal to one if donor is Japan and recipient is in Asia	
Donor variables			
outgap	Output gap	Output gap estimated by OECD	OECD iLibrary (2010)
unsp	Unemployment spread	Current unemployment subtracted by the average unemployment in donor country 1992-2009	World Development Indicators
cri	Crisisdummy	Dummy equal to one if donor is in economic crisis (as measured by the variable output gap)	
uncri	Unemployment crisisdummy	Dummy equal to one if donor is in economic crisis (as measured by variable unemployment spread)	

Variable		Definition	Source
Recipient variables			
lnpop	Population	Natural logarithm of the population in recipient country	World Development Indicators
lngdpc	GDP per capita	Natural logarithm of GDP per capita in recipient country, current USD	World Development Indicators
polity2	Polity2	Measure of level of democracy/autocracy on a scale from -10 (autocracy) to +10 (democracy)	Polity IV Projects
natdis	Disasters	Dummy variable equal to one if there has been a natural disaster a current year in the recipient country	Emergency Events Database EM-DAT
mil	Military	Percentage of GDP spent on military	World Development Indicators

Appendix 3. Summary Statistics

Variable	Mean	Std. Err.	N
Aid	2.65	0.30	76019
lnpop	15.38	0.0075	76020
lngdpc	7.43	0.0050	71008
polity2	1.40	0.025	64736
rexp ²	0.0012	0.000023	65140
outgap	-0.35%	2.32%	75922
Unsp	-0.01%	1.17%	70686

Appendix 4. Regression results

Regression results for model/hypothesis A

Table A1. Fixed effect regression results for fundamental model

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	1.37 (2.20)
outgap	0.0028 (0.0045)
rexgap	-0.57* (0.32)
Observations	52466
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2
Within R-squared	0.13

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

² Since there is a non-trivial amount of missing values for relative export we also present the following statistics for rexp:

25 % percentile: 9.52×10^{-6}

50 % percentile: 0.0000716

75 % percentile: 0.0004404

Table A2. Fixed effect regression results for fundamental model, without outliers

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	1.37 (2.20)
outgap	0.0027 (0.0045)
rexgap	-0.57* (0.32)
Observations	52425
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2
Within R-squared	0.14

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table A3. Fixed effect regression results with dummy for USA-Israel and USA-Egypt

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	1.37 (2.20)
outgap	0.0028 (0.0045)
rexgap	-0.57* (0.31)
Observations	52466
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, usaummy, usaedummy
Within R-squared	0.14

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table A4. Fixed effect regression results controlling for Japanese and US region dummies

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	0.78 (2.51)
outgap	0.0028 (0.0045)
rexgap	-0.56* (0.32)
Observations	52466
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, usalatin, japancl
Within R-squared	0.14

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table A5. Fixed effect regression results when controlling for former colonies

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	1.21 (2.30)
outgap	0.0028 (0.0045)
rexgap	-0.55* (0.32)
Observations	52466
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, col
Within R-squared	0.14

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table A6. Fixed effect regression results controlling for military expense % of GDP of recipient

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	1.29 (2.21)
outgap	0.0025 (0.0047)
rexgap	-0.54* (0.31)
Observations	44796
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, mil
Within R-squared	0.16

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table A7. Fixed effect regression results with all controls

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	1.18 (2.25)
outgap	0.0025 (0.0047)
rexgap	-0.53* (0.31)
Observations	44796
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, usaidummy, usaedummy, usalatin, japancl, col, mil
Within R-squared	0.17

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table A8. Fixed effect regression results for model with unemployment spread

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	1.22 (2.32)
unsp	-0.012** (0.0056)
unsprexp	0.42 (0.57)
Observations	45537
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, usaidummy, usaedummy, usalatin, japancl, col, mil
Within R-squared	0.16

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table A9. Fixed effect regression results for self-interested countries

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	4.24 (2.17)
outgap	0.016 (0.0095)
rexgap	-0.95** (0.26)
Observations	8559
Number of donors	5
Controls	lnpop, lngdpc, natdis, polity2, usaidummy, usaedummy, usalatin, japancl, col, mil
Within R-squared	0.27

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table A10. Fixed effect regression results for altruistic countries

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	6.42 (3.91)
outgap	0.0041 (0.0033)
rexgap	-0.92* (0.42)
Observations	11985
Number of donors	7
Controls	lnpop, lngdpc, natdis, polity2, japancl, col, mil
Within R-squared	0.27

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Regression results for model/hypothesis B

Table B1. Fixed effect regression results for fundamental model

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	1.19 (2.14)
cri	-0.085** (0.035)
criexp	19.25*** (4.90)
Observations	53335
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2
Within R-squared	0.14

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table B2. Fixed effect regression results for fundamental model, without outliers

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	1.19 (2.14)
cri	-0.084** (0.035)
criexp	19.16*** (4.92)
Observations	53294
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2
Within R-squared	0.14

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table B3. Fixed effect regression results with dummy for USA-Israel and USA-Egypt

Method	FE
	$Aid_{to\ r\ from\ d, t}^*/Capita_{i, t}$
rexp	1.20 (2.14)
cri	-0.085** (0.035)
criexp	19.37*** (4.99)
Observations	53335
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, usaidummy, usaedummy
Within R-squared	0.14

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table B4. Fixed effect regression results controlling for Japanese and US region dummies

Method	FE
	$Aid_{to\ r\ from\ d, t}^*/Capita_{i, t}$
rexp	0.58 (2.44)
cri	-0.085* (0.035)
criexp	19.50*** (4.94)
Observations	53335
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, usalatin, japancl
Within R-squared	0.14

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table B5. Fixed effect regression results when controlling for former colonies

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	1.04 (2.24)
cri	-0.085** (0.035)
criexp	19.05*** (4.91)
Observations	53335
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, col
Within R-squared	0.14

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table B6. Fixed effect regression results controlling for military expense % of GDP of recipient

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	1.13 (2.15)
cri	-0.081** (0.036)
criexp	17.93*** (4.79)
Observations	45537
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, mil
Within R-squared	0.16

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table B7. Fixed effect regression results with all controls

Method	FE $Aid_{to\ r\ from\ d,\ t}^*/Capita_{r,\ t}$
rexp	1.03 (2.19)
cri	-0.081** (0.035)
criexp	17.85*** (4.87)
Observations	45537
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, usaidummy, usaedummy, usalatin, japancl, col, mil
Within R-squared	0.17

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table B8. Fixed effect regression results for model with unemployment spread

Method	FE $Aid_{to\ r\ from\ d,\ t}^*/Capita_{r,\ t}$
rexp	0.95 (2.17)
uncri	-0.072** (0.029)
uncriexp	19.19*** (4.93)
Observations	45537
Number of donors	27
Controls	lnpop, lngdpc, natdis, polity2, usaidummy, usaedummy, usalatin, japancl, col, mil
Within R-squared	0.16

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table B9. Fixed effect regression results for self-interested countries

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	4.58 (2.13)
cri	-0.097** (0.035)
criexp	34.82** (11.99)
Observations	10029
Number of donors	5
Controls	lnpop, lngdpc, natdis, polity2, usaedummy, usaedummy, usalatin, japancl, col, mil
Within R-squared	0.23

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10

Table B10. Fixed effect regression results for altruistic countries

Method	FE $Aid_{to\ r\ from\ d, t}^*/Capita_{r, t}$
rexp	6.41 (4.04)
cri	-0.065** (0.0244)
criexp	19.17* (7.95)
Observations	14044
Number of donors	7
Controls	lnpop, lngdpc, natdis, polity2, japancl, col, mil
Within R-squared	0.27

Notes: Estimations are based on recipient, donor and time-fixed effects.

Standard errors are clustered at the donor country level and presented in parentheses.

Significance levels are marked as *** p < 0.01, ** p < 0.05, * p < 0.10